Mathematica 11.3 Integration Test Results

Test results for the 78 problems in "1.1.1.6 P(x) (a+b x)^m (c+d x)^n (e+f x)^p.m"

Problem 61: Result unnecessarily involves complex numbers and more than twice size of optimal antiderivative.

$$\int \sqrt{a+b\,x}\,\sqrt{c+d\,x}\,\sqrt{e+f\,x}\,\left(A+B\,x+C\,x^2\right)\,dx$$

Optimal (type 4, 1182 leaves, 10 steps):

$$\frac{1}{315\,b^3\,d^3\,f^3}2\left(8\,a^3\,C\,d^3\,f^3+3\,a^2\,b\,d^2\,f^2\left(C\,d\,e-c\,C\,f-4\,B\,d\,f\right)-3\,a\,b^2\,d\,f^2\left(\left(c^2\,C-7\,A\,d^2\right)f+B\,d\left(d\,e-2\,c\,f\right)\right)-b^3\left(C\left(16\,d^3\,e^3-3\,c^2\,d\,e\,f^2-8\,c^3\,f^3\right)+3\,d\,f\left(7\,A\,d\,f\left(2\,d\,e-c\,f\right)-B\left(8\,d^2\,e^2-c\,d\,e\,f-4\,c^2\,f^2\right)\right)\right)\right)\sqrt{a+b\,x}\,\sqrt{c+d\,x}\,\sqrt{e+f\,x}-\frac{1}{105\,b^2\,d^2\,f^3}2\left(7\,b\,d\,f\left(b\,c\,C\,e+a\,C\,d\,e+a\,c\,C\,f-3\,A\,b\,d\,f\right)+\left(a\,d\,f-4\,b\left(d\,e+c\,f\right)\right)\left(2\,a\,C\,d\,f-b\left(3\,B\,d\,f-2\,C\left(d\,e+c\,f\right)\right)\right)\right)\sqrt{a+b\,x}\,\sqrt{c+d\,x}\,\left(e+f\,x\right)^{3/2}-\frac{1}{21\,b\,d^2\,f^2}2\left(2\,a\,C\,d\,f-b\left(3\,B\,d\,f-2\,C\left(d\,e+c\,f\right)\right)\right)\sqrt{a+b\,x}\,\left(c+d\,x\right)^{3/2}\left(e+f\,x\right)^{3/2}+\frac{2\,C\left(a+b\,x\right)^{3/2}\left(c+d\,x\right)^{3/2}\left(e+f\,x\right)^{3/2}}{9\,b\,d\,f}-\frac{1}{315\,b^4\,d^{7/2}\,f^4\,\sqrt{c+d\,x}\,\sqrt{\frac{b\left(e+f\,x\right)}{b\,e-a\,f}}}2\sqrt{-b\,c+a\,d}\left(16\,a^4\,C\,d^4\,f^4-8\,a^3\,b\,d^3\,f^3\left(C\,d\,e+c\,C\,f+3\,B\,d\,f\right)+3\,a^2\,b^2\,d^2\,f^2\left(d\,f\left(5\,B\,d\,e+5\,B\,c\,f+14\,A\,d\,f\right)-2\,C\left(d^2\,e^2-c\,d\,e\,f+c^2\,f^2\right)\right)-a\,b^3\,d\,f\left(C\left(8\,d^3\,e^3-6\,c\,d^2\,e^2\,f-6\,c^2\,d\,e\,f^2+8\,c^3\,f^3\right)+3\,d\,f\left(14\,A\,d\,f\left(d\,e+c\,f\right)-B\left(5\,d^2\,e^2-6\,c\,d\,e\,f+5\,c^2\,f^2\right)\right)\right)+b^4\left(2\,C\left(8\,d^4\,e^4-4\,c\,d^3\,e^3\,f-3\,c^2\,d^2\,e^2\,f^2-4\,c^3\,d\,e\,f^3+8\,c^4\,f^4\right)+3\,d\,f\left(14\,A\,d\,f\left(d^2\,e^2-c\,d\,e\,f+c^2\,f^2\right)-B\left(8\,d^3\,e^3-5\,c\,d^2\,e^2\,f-5\,c^2\,d\,e\,f^2+8\,c^3\,f^3\right)\right)\right)\right)\sqrt{\frac{b\left(c+d\,x\right)}{b\,c-a\,d}}\,\sqrt{e+f\,x}\,\text{EllipticE}\left[\text{ArcSin}\left[\frac{\sqrt{d}\,\sqrt{a+b\,x}}{\sqrt{-b\,c+a\,d}}\right],\frac{\left(b\,c-a\,d\right)f}{d\left(b\,e-a\,f\right)}\right]-\frac{1}{315\,b^4\,d^{7/2}\,f^4\,\sqrt{c+d\,x}\,\sqrt{e+f\,x}}2\sqrt{-b\,c+a\,d}\left(b\,e-a\,f\right)\left(d\,e-c\,f\right)\left(8\,a^3\,C\,d^3\,f^3+3\,a^2\,b\,d^2\,f^2\left(C\,d\,e-c\,C\,f-4\,B\,d\,f\right)-3\,a\,b^2\,d\,f^2\left(\left(c^2\,C-7\,A\,d^2\right)f+B\,d\left(d\,e-2\,c\,f\right)\right)-b^3\left(C\left(16\,d^3\,e^3-3\,c^2\,d\,e\,f^2-8\,c^3\,f^3\right)+3\,d\,f\left(7\,A\,d\,f\left(2\,d\,e-c\,f\right)-B\left(8\,d^2\,e^2-c\,d\,e\,f-4\,c^2\,f^2\right)\right)\right)\right)\sqrt{\frac{b\left(c+d\,x\right)}{b\,c-a\,d}}\,\sqrt{\frac{b\left(e+f\,x\right)}{b\,e-a\,f}}\,\text{EllipticF}\left[\text{ArcSin}\left[\frac{\sqrt{d}\,\sqrt{a+b\,x}}{\sqrt{-b\,c+a\,d}}\right],\frac{\left(b\,c-a\,d\right)f}{d\left(b\,e-a\,f\right)}\right]$$

Result (type 4, 11 933 leaves):

$$\sqrt{a+b\,x}\,\sqrt{c+d\,x}\,\sqrt{e+f\,x}\left(\frac{1}{315\,b^3\,d^3\,f^3}2\left(8\,b^3\,C\,d^3\,e^3-3\,b^3\,c\,C\,d^2\,e^2\,f-12\,b^3\,B\,d^3\,e^2\,f-3\,a\,b^2\,C\,d^3\,e^2\,f-3\,b^3\,c^2\,C\,d\,e\,f^2+6\,b^3\,B\,c\,d^2\,e\,f^2+2\,a\,b^2\,c\,C\,d^2\,e\,f^2+21\,A\,b^3\,d^3\,e\,f^2+6\,a\,b^2\,B\,d^3\,e\,f^2-3\,a^2\,b\,C\,d^3\,e\,f^2+8\,b^3\,c^3\,C\,f^3-12\,b^3\,B\,c^2\,d\,f^3-3\,a\,b^2\,c^2\,C\,d\,f^3+21\,A\,b^3\,c\,d^2\,f^3+6\,a\,b^2\,B\,c\,d^2\,f^3-3\,a^2\,b\,c\,C\,d^2\,f^3+21\,a\,A\,b^2\,d^3\,f^3-12\,a^2\,b\,B\,d^3\,f^3+8\,a^3\,C\,d^3\,f^3\right)+\frac{1}{315\,b^2\,d^2\,f^2}2\left(-6\,b^2\,C\,d^2\,e^2+2\,b^2\,c\,C\,d\,e\,f+9\,b^2\,B\,d^2\,e\,f+2\,a\,b\,C\,d^2\,e\,f-6\,b^2\,c^2\,C\,f^2+9\,b^2\,B\,c\,d\,f^2+2\,a\,b\,c\,C\,d\,f^2+63\,A\,b^2\,d^2\,f^2+9\,a\,b\,B\,d^2\,f^2-6\,a^2\,C\,d^2\,f^2\right)x+\frac{2\left(b\,C\,d\,e+b\,c\,C\,f+9\,b\,B\,d\,f+a\,C\,d\,f\right)x^2}{63\,b\,d\,f}+\frac{2\,C\,x^3}{9}\right)-$$

$$\frac{1}{315\,b^5\,d^3\,f^3}\,2\left(\frac{1}{d\,f\,\sqrt{c+\frac{(a+b\,x)\left(d-\frac{a\,d}{a+b\,x}\right)}{b}}\,\sqrt{e+\frac{(a+b\,x)\left(f-\frac{a\,f}{a+b\,x}\right)}{b}}}\right.$$

$$\left(16\,b^4\,C\,d^4\,e^4-8\,b^4\,c\,C\,d^3\,e^3\,f-24\,b^4\,B\,d^4\,e^3\,f-8\,a\,b^3\,C\,d^4\,e^3\,f-6\,b^4\,c^2\,C\,d^2\,e^2\,f^2+15\,b^4\,B\,c\,d^3\,e^2\,f^2+6\,a\,b^3\,c\,C\,d^3\,e^2\,f^2+42\,A\,b^4\,d^4\,e^2\,f^2+15\,a\,b^3\,B\,d^4\,e^2\,f^2-6\,a^2\,b^2\,C\,d^4\,e^2\,f^2-8\,b^4\,c^3\,C\,d\,e\,f^3+15\,b^4\,B\,c^2\,d^2\,e\,f^3+6\,a\,b^3\,c^2\,C\,d^2\,e\,f^3-42\,A\,b^4\,c\,d^3\,e\,f^3-18\,a\,b^3\,B\,c\,d^3\,e\,f^3+6\,a^2\,b^2\,c\,C\,d^3\,e\,f^3-42\,a\,A\,b^3\,d^4\,e\,f^3+15\,a^2\,b^2\,B\,d^4\,e\,f^3-8\,a^3\,b\,C\,d^4\,e\,f^3+16\,b^4\,c^4\,C\,f^4-24\,b^4\,B\,c^3\,d\,f^4-8\,a\,b^3\,c^3\,C\,d\,f^4+42\,A\,b^4\,c^2\,d^2\,f^4+15\,a\,b^3\,B\,c^2\,d^2\,f^4-6\,a^2\,b^2\,c^2\,C\,d^2\,f^4-42\,a\,A\,b^3\,c\,d^3\,f^4+15\,a^2\,b^2\,B\,c\,d^3\,f^4-8\,a^3\,b\,c\,C\,d^3\,f^4+42\,a^2\,A\,b^2\,d^4\,f^4-24\,a^3\,b\,B\,d^4\,f^4+16\,a^4\,C\,d^4\,f^4\right)\left(a+b\,x\right)^{3/2}$$

$$\left(d+\frac{b\,c}{a+b\,x}-\frac{a\,d}{a+b\,x}\right)\left(f+\frac{b\,e}{a+b\,x}-\frac{a\,f}{a+b\,x}\right)-\frac{1}{d\,f\,\sqrt{c+\frac{(a+b\,x)\left(d-\frac{a\,d}{a+b\,x}\right)}{b}}\,\sqrt{e+\frac{(a+b\,x)\left(f-\frac{a\,f}{a+b\,x}\right)}{b}}}$$

$$\left(-b\,c+a\,d\right)\left(-b\,e+a\,f\right)\left(a+b\,x\right)\sqrt{\left(d+\frac{b\,c}{a+b\,x}-\frac{a\,d}{a+b\,x}\right)\left(f+\frac{b\,e}{a+b\,x}-\frac{a\,f}{a+b\,x}\right)}$$

$$\left(\left(\left(16\,i\,b^4\,C\,d^4\,e^4\,f\,\sqrt{1-\frac{-b\,c+a\,d}{d\left(a+b\,x\right)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\left(a+b\,x\right)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.\right.$$

$$\left.\left.\left.\left.\frac{d\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\left(-b\,e+a\,f\right)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-\left(8\,i\,b^4\,c\,C\,d^3\right.$$

$$e^3\,f^2\sqrt{1-\frac{-b\,c+a\,d}{d\left(a+b\,x\right)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\left(a+b\,x\right)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.$$

$$\left.\left.\left.\frac{d\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\left(-b\,e+a\,f\right)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(24\,i\,b^4\,B\,d^4\,e^3\,f^2\sqrt{1-\frac{-b\,c+a\,d}{d\,\left(a+b\,x\right)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,\left(a+b\,x\right)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\,\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\right]\right)\right)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\left(-b\,e+a\,f\right)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-\left(8\,i\,a\,b^3\,C\,d^4\right.$$

$$e^3\,f^2\sqrt{1-\frac{-b\,c+a\,d}{d\,\left(a+b\,x\right)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,\left(a+b\,x\right)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.$$

$$\left.\left.\left.\frac{d\,\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\,\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\right]\right)\right)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\left(-b\,e+a\,f\right)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-\left(6\,i\,b^4\,c^2\,C\right.$$

$$d^2\,e^2\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\,\left(a+b\,x\right)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,\left(a+b\,x\right)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.$$

$$\left.\left.\left.\frac{d\,\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\,\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\right]\right)\right)\Bigg/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ (-b e+a f)\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)+\Bigg(15\,i\,b^4\,B\,c$$

$$d^3\,e^2\,f^3\sqrt{1-\frac{-b c+a d}{d\,(a+b x)}}\ \sqrt{1-\frac{-b e+a f}{f\,(a+b x)}}\ \Bigg(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\Big],$$

$$\frac{d\,(-b e+a f)}{(-b c+a d)\,f}\Big]-\text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\Big],\ \frac{d\,(-b e+a f)}{(-b c+a d)\,f}\Big]\Bigg)\Bigg)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ (-b e+a f)\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)+\Bigg(6\,i\,a\,b^3\,c\,C$$

$$d^3\,e^2\,f^3\sqrt{1-\frac{-b c+a d}{d\,(a+b x)}}\ \sqrt{1-\frac{-b e+a f}{f\,(a+b x)}}\ \Bigg(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\Big],$$

$$\frac{d\,(-b e+a f)}{(-b c+a d)\,f}\Big]-\text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\Big],\ \frac{d\,(-b e+a f)}{(-b c+a d)\,f}\Big]\Bigg)\Bigg)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ (-b e+a f)\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)+$$

$$\Bigg(42\,i\,A\,b^4\,d^4\,e^2\,f^3\sqrt{1-\frac{-b c+a d}{d\,(a+b x)}}\ \sqrt{1-\frac{-b e+a f}{f\,(a+b x)}}\ \Bigg(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\Big],$$

$$\frac{d\,(-b e+a f)}{(-b c+a d)\,f}\Big]-\text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\Big],\ \frac{d\,(-b e+a f)}{(-b c+a d)\,f}\Big]\Bigg)\Bigg)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ (-b e+a f)\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)+\Bigg(15\,i\,a\,b^3\,B\,d^4\,e^2\,f^3\sqrt{1-\frac{-b c+a d}{d\,(a+b x)}}\ \sqrt{1-\frac{-b e+a f}{f\,(a+b x)}}\ \Bigg(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\Big],\ \frac{d\,(-b e+a f)}{(-b c+a d)\,f}\Big]-\text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\Big],\ \frac{d\,(-b e+a f)}{(-b c+a d)\,f}\Big]\Bigg)\Bigg)\Big/\left(\sqrt{-\frac{-b c+a d}{d}}\ (-b e+a f)\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)-\Bigg(6\,i\,a^2\,b^2\,C\,d^4\,e^2\,f^3\sqrt{1-\frac{-b c+a d}{d\,(a+b x)}}\ \sqrt{1-\frac{-b e+a f}{f\,(a+b x)}}\ \Bigg(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\Big],\ \frac{d\,(-b e+a f)}{(-b c+a d)\,f}\Big]-\text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\Big],\ \frac{d\,(-b e+a f)}{(-b c+a d)\,f}\Big]\Bigg)\Bigg)\Big/\left(\sqrt{-\frac{-b c+a d}{d}}\ (-b e+a f)\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)-\Bigg(8\,i\,b^4\,c^3\,C\,d\,e\,f^4\sqrt{1-\frac{-b c+a d}{d\,(a+b x)}}\ \sqrt{1-\frac{-b e+a f}{f\,(a+b x)}}\ \Bigg(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\Big],\ \frac{d\,(-b e+a f)}{(-b c+a d)\,f}\Big]-\text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\Big],\ \frac{d\,(-b e+a f)}{(-b c+a d)\,f}\Big]\Bigg)\Bigg)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ (-b e+a f)\sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)+$$

$$\left(15\,i\,b^4\,B\,c^2\,d^2\,e\,f^4\sqrt{1-\frac{-b c+a d}{d\,(a+b x)}}\sqrt{1-\frac{-b e+a f}{f\,(a+b x)}}\right.$$

$$\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\frac{d\,(-b e+a f)}{(-b c+a d)\,f}\right]-\right.$$

$$\left.\left.\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\frac{d\,(-b e+a f)}{(-b c+a d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ (-b e+a f)\sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)+$$

$$\left(6\,i\,a\,b^3\,c^2\,C\,d^2\,e\,f^4\sqrt{1-\frac{-b c+a d}{d\,(a+b x)}}\sqrt{1-\frac{-b e+a f}{f\,(a+b x)}}\right.$$

$$\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\frac{d\,(-b e+a f)}{(-b c+a d)\,f}\right]-\right.$$

$$\left.\left.\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\frac{d\,(-b e+a f)}{(-b c+a d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ (-b e+a f)\sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)-$$

$$\left(42\,i\,A\,b^4\,c\,d^3\,e\,f^4\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\right.$$

$$\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\right.$$

$$\left.\left.\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(18\,i\,a\,b^3\,B\,c\,d^3\,e\,f^4\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\right.$$

$$\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\right.$$

$$\left.\left.\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(6\,i\,a^2\,b^2\,c\,C\,d^3\,e\,f^4\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\right.$$

$$\left(\text{EllipticE}\left[\text{i ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right], \frac{d\left(-b e+a f\right)}{\left(-b c+a d\right) f}\right] - \text{EllipticF}\left[\text{i ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right], \frac{d\left(-b e+a f\right)}{\left(-b c+a d\right) f}\right]\right) \Big/ \left(\sqrt{-\frac{-b c+a d}{d}}\left(-b e+a f\right)\sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right) -$$

$$\left(42\,\text{i}\,a\,A\,b^3\,d^4\,e\,f^4\sqrt{1-\frac{-b c+a d}{d\left(a+b x\right)}}\sqrt{1-\frac{-b e+a f}{f\left(a+b x\right)}}\right.$$

$$\left(\text{EllipticE}\left[\text{i ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right], \frac{d\left(-b e+a f\right)}{\left(-b c+a d\right) f}\right] - \text{EllipticF}\left[\text{i ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right], \frac{d\left(-b e+a f\right)}{\left(-b c+a d\right) f}\right]\right) \Big/ \left(\sqrt{-\frac{-b c+a d}{d}}\left(-b e+a f\right)\sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right) +$$

$$\left(15\,\text{i}\,a^2\,b^2\,B\,d^4\,e\,f^4\sqrt{1-\frac{-b c+a d}{d\left(a+b x\right)}}\sqrt{1-\frac{-b e+a f}{f\left(a+b x\right)}}\right.$$

$$\left(\text{EllipticE}\left[\text{i ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right], \frac{d\left(-b e+a f\right)}{\left(-b c+a d\right) f}\right] -\right.$$

$$\text{EllipticF}\left[\text{i ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right], \frac{d\left(-b e+a f\right)}{\left(-b c+a d\right) f}\right]\Bigg)\Bigg) \Bigg/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ \left(-b e+a f\right) \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right) -$$

$$\left(8 \text{i} a^3 b C d^4 e f^4 \sqrt{1-\frac{-b c+a d}{d\left(a+b x\right)}} \sqrt{1-\frac{-b e+a f}{f\left(a+b x\right)}} \left(\text{EllipticE}\left[\text{i ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\left(-b e+a f\right)}{\left(-b c+a d\right) f}\right] - \text{EllipticF}\left[\text{i ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right], \frac{d\left(-b e+a f\right)}{\left(-b c+a d\right) f}\right]\right)\right) \Bigg/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ \left(-b e+a f\right) \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right) +$$

$$\left(16 \text{i} b^4 c^4 C f^5 \sqrt{1-\frac{-b c+a d}{d\left(a+b x\right)}} \sqrt{1-\frac{-b e+a f}{f\left(a+b x\right)}} \left(\text{EllipticE}\left[\text{i ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\left(-b e+a f\right)}{\left(-b c+a d\right) f}\right] - \text{EllipticF}\left[\text{i ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right], \frac{d\left(-b e+a f\right)}{\left(-b c+a d\right) f}\right]\right)\right) \Bigg/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ \left(-b e+a f\right) \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right) -$$

$$\left(24 \text{i} b^4 B c^3 d f^5 \sqrt{1-\frac{-b c+a d}{d\left(a+b x\right)}} \sqrt{1-\frac{-b e+a f}{f\left(a+b x\right)}} \left(\text{EllipticE}\left[\text{i ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\right.\right.\right.$$

$$\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big] - \text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]\Bigg)\Bigg) \Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right) -$$

$$\left(8\,i\,a\,b^3\,c^3\,C\,d\,f^5\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\right.\right.$$

$$\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big] - \text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]\right)\right) \Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right) +$$

$$\left(42\,i\,A\,b^4\,c^2\,d^2\,f^5\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\right.\right.$$

$$\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big] - \text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]\right)\right) \Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right) +$$

$$\left(15\,i\,a\,b^3\,B\,c^2\,d^2\,f^5\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\right.$$

$$\left(\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\right.\right.$$

$$\left.\left.\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\ \sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(6\,i\,a^2\,b^2\,c^2\,C\,d^2\,f^5\ \sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\ \sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\right.$$

$$\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\right.$$

$$\left.\left.\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\ \sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(42\,i\,a\,A\,b^3\,c\,d^3\,f^5\ \sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\ \sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\right.$$

$$\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\right.$$

$$\text{EllipticF}\left[\text{i ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right], \frac{d\left(-b e+a f\right)}{\left(-b c+a d\right) f}\right]\Bigg)\Bigg) \Bigg/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ \left(-b e+a f\right) \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right) +$$

$$\left(15\,\text{i}\,a^2 b^2 B c d^3 f^5 \sqrt{1-\frac{-b c+a d}{d\left(a+b x\right)}}\ \sqrt{1-\frac{-b e+a f}{f\left(a+b x\right)}}\right.$$

$$\left(\text{EllipticE}\left[\text{i ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right], \frac{d\left(-b e+a f\right)}{\left(-b c+a d\right) f}\right] -\right.$$

$$\left.\text{EllipticF}\left[\text{i ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right], \frac{d\left(-b e+a f\right)}{\left(-b c+a d\right) f}\right]\right)\Bigg) \Bigg/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ \left(-b e+a f\right) \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right) -$$

$$\left(8\,\text{i}\,a^3 b c C d^3 f^5 \sqrt{1-\frac{-b c+a d}{d\left(a+b x\right)}}\ \sqrt{1-\frac{-b e+a f}{f\left(a+b x\right)}}\ \left(\text{EllipticE}\left[\text{i ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\left(-b e+a f\right)}{\left(-b c+a d\right) f}\right] - \text{EllipticF}\left[\text{i ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right], \frac{d\left(-b e+a f\right)}{\left(-b c+a d\right) f}\right]\right)\Bigg) \Bigg/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ \left(-b e+a f\right) \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right) +$$

$$\left(42\,i\,a^2\,A\,b^2\,d^4\,f^5\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(24\,i\,a^3\,b\,B\,d^4\,f^5\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(16\,i\,a^4\,C\,d^4\,f^5\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(8\,i\,b^3\,C\,d^4\,e^3\,f\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\right.$$

$$\left.\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+\left(3\,i\,b^3\,c\,C\,d^3\,e^2\,f^2\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\right.$$

$$\left.\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\,\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+\left(12\,i\,b^3\,B\,d^4\,e^2\,f^2\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\right.$$

$$\left.\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\,\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-\left(3\,i\,a\,b^2\,C\,d^4\,e^2\,f^2\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\right.$$

$$\left.\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\,\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+\left(3\,i\,b^3\,c^2\,C\,d^2\,e\,f^3\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\right.$$

$$\left.\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\,\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-\left(6\,i\,b^3\,B\,c\,d^3\,e\,f^3\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\right.$$

$$\left.\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\,\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-\left(21\,i\,A\,b^3\,d^4\,e\,f^3\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\right.$$

$$\left.\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\,\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+\left(3\,i\,a\,b^2\,B\,d^4\,e\,f^3\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\right.$$

$$\left.\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\,\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)-\left(8 i b^3 c^3 C d f^4 \sqrt{1-\frac{-b c+a d}{d (a+b x)}}\right.$$

$$\left.\sqrt{1-\frac{-b e+a f}{f (a+b x)}}\ \text{EllipticF}\left[i\ \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\ \frac{d (-b e+a f)}{(-b c+a d) f}\right]\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)+\left(12 i b^3 B c^2 d^2 f^4 \sqrt{1-\frac{-b c+a d}{d (a+b x)}}\right.$$

$$\left.\sqrt{1-\frac{-b e+a f}{f (a+b x)}}\ \text{EllipticF}\left[i\ \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\ \frac{d (-b e+a f)}{(-b c+a d) f}\right]\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)-\left(3 i a b^2 c^2 C d^2 f^4 \sqrt{1-\frac{-b c+a d}{d (a+b x)}}\right.$$

$$\left.\sqrt{1-\frac{-b e+a f}{f (a+b x)}}\ \text{EllipticF}\left[i\ \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\ \frac{d (-b e+a f)}{(-b c+a d) f}\right]\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)-\left(21 i A b^3 c d^3 f^4 \sqrt{1-\frac{-b c+a d}{d (a+b x)}}\right.$$

$$\left.\sqrt{1-\frac{-b e+a f}{f (a+b x)}}\ \text{EllipticF}\left[i\ \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\ \frac{d (-b e+a f)}{(-b c+a d) f}\right]\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)+\left(3 i a b^2 B c d^3 f^4 \sqrt{1-\frac{-b c+a d}{d (a+b x)}}\right.$$

$$\left.\sqrt{1-\frac{-b e+a f}{f (a+b x)}}\ \text{EllipticF}\left[i\ \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\ \frac{d (-b e+a f)}{(-b c+a d) f}\right]\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)+\left(42 i a A b^2 d^4 f^4 \sqrt{1-\frac{-b c+a d}{d (a+b x)}}\right.$$

$$\left.\sqrt{1-\frac{-b e+a f}{f (a+b x)}}\ \text{EllipticF}\left[i\ \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\ \frac{d (-b e+a f)}{(-b c+a d) f}\right]\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)-$$

$$\left(24 i a^2 b B d^4 f^4 \sqrt{1-\frac{-b c+a d}{d (a+b x)}}\ \sqrt{1-\frac{-b e+a f}{f (a+b x)}}\ \text{EllipticF}\left[i\ \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\right.\right.$$

$$\left.\left.\frac{d (-b e+a f)}{(-b c+a d) f}\right]\right)\Big/\left(\sqrt{-\frac{-b c+a d}{d}}\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)+$$

$$\left(16 i a^3 C d^4 f^4 \sqrt{1-\frac{-b c+a d}{d (a+b x)}}\ \sqrt{1-\frac{-b e+a f}{f (a+b x)}}\ \text{EllipticF}\left[i\ \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\right.\right.$$

$$\left.\left.\frac{d (-b e+a f)}{(-b c+a d) f}\right]\right)\Big/\left(\sqrt{-\frac{-b c+a d}{d}}\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)\Big)\Big)$$

Problem 62: Result unnecessarily involves complex numbers and more than twice size of optimal antiderivative.

$$\int \frac{\sqrt{c+d\,x}\,\sqrt{e+f\,x}\,\left(A+B\,x+C\,x^2\right)}{\sqrt{a+b\,x}}\,dx$$

Optimal (type 4, 774 leaves, 9 steps):

$$-\frac{1}{105\,b^3\,d^2\,f^2}2\left(5\,b\,d\,f\left(3\,a\,C\left(d\,e+c\,f\right)+b\left(c\,C\,e-7\,A\,d\,f\right)\right)-\left(2\,b\,d\,e-b\,c\,f+4\,a\,d\,f\right)\left(6\,a\,C\,d\,f-b\left(7\,B\,d\,f-4\,C\left(d\,e+c\,f\right)\right)\right)\right)\sqrt{a+b\,x}\,\sqrt{c+d\,x}\,\sqrt{e+f\,x}-\frac{2\left(6\,a\,C\,d\,f-b\left(7\,B\,d\,f-4\,C\left(d\,e+c\,f\right)\right)\right)\sqrt{a+b\,x}\,\sqrt{c+d\,x}\,\left(e+f\,x\right)^{3/2}}{35\,b^2\,d\,f^2}+\frac{2\,C\,\sqrt{a+b\,x}\,\left(c+d\,x\right)^{3/2}\left(e+f\,x\right)^{3/2}}{7\,b\,d\,f}-\frac{1}{105\,b^4\,d^{5/2}\,f^3\,\sqrt{c+d\,x}\,\sqrt{\frac{b\,(e+f\,x)}{b\,e-a\,f}}}$$

$$2\sqrt{-b\,c+a\,d}\left(3\,b\,d\,f\left(5\,b\,c\,f\left(3\,a\,C\left(d\,e+c\,f\right)+b\left(c\,C\,e-7\,A\,d\,f\right)\right)-\left(b\,c\,e+a\,d\,e+3\,a\,c\,f\right)\left(6\,a\,C\,d\,f-b\left(7\,B\,d\,f-4\,C\left(d\,e+c\,f\right)\right)\right)\right)+2\left(\frac{b\,d\,e}{2}-\left(b\,c+a\,d\right)f\right)\left(5\,b\,d\,f\left(3\,a\,C\left(d\,e+c\,f\right)+b\left(c\,C\,e-7\,A\,d\,f\right)\right)-\left(2\,b\,d\,e-b\,c\,f+4\,a\,d\,f\right)\left(6\,a\,C\,d\,f-b\left(7\,B\,d\,f-4\,C\left(d\,e+c\,f\right)\right)\right)\right)\right)\sqrt{\frac{b\,(c+d\,x)}{b\,c-a\,d}}\,\sqrt{e+f\,x}\,\text{EllipticE}\left[\text{ArcSin}\left[\frac{\sqrt{d}\,\sqrt{a+b\,x}}{\sqrt{-b\,c+a\,d}}\right],\frac{(b\,c-a\,d)\,f}{d\,(b\,e-a\,f)}\right]-\left(2\sqrt{-b\,c+a\,d}\,\left(b\,e-a\,f\right)\left(d\,e-c\,f\right)\left(24\,a^2\,C\,d^2\,f^2+a\,b\,d\,f\left(13\,C\,d\,e-5\,c\,C\,f-28\,B\,d\,f\right)-b^2\left(7\,d\,f\left(2\,B\,d\,e-B\,c\,f-5\,A\,d\,f\right)-C\left(8\,d^2\,e^2-c\,d\,e\,f-4\,c^2\,f^2\right)\right)\right)\sqrt{\frac{b\,(c+d\,x)}{b\,c-a\,d}}\,\sqrt{\frac{b\,(e+f\,x)}{b\,e-a\,f}}\,\text{EllipticF}\left[\text{ArcSin}\left[\frac{\sqrt{d}\,\sqrt{a+b\,x}}{\sqrt{-b\,c+a\,d}}\right],\frac{(b\,c-a\,d)\,f}{d\,(b\,e-a\,f)}\right]\right)\Big/\left(105\,b^4\,d^{5/2}\,f^3\,\sqrt{c+d\,x}\,\sqrt{e+f\,x}\right)$$

Result (type 4, 7297 leaves):

$$\sqrt{a+b\,x}\,\sqrt{c+d\,x}\,\sqrt{e+f\,x}\left(\frac{1}{105\,b^3\,d^2\,f^2}2\left(-4\,b^2\,C\,d^2\,e^2+2\,b^2\,c\,C\,d\,e\,f+7\,b^2\,B\,d^2\,e\,f-5\,a\,b\,C\,d^2\,e\,f-4\,b^2\,c^2\,C\,f^2+7\,b^2\,B\,c\,d\,f^2-5\,a\,b\,c\,C\,d\,f^2+35\,A\,b^2\,d^2\,f^2-28\,a\,b\,B\,d^2\,f^2+24\,a^2\,C\,d^2\,f^2\right)+\frac{2\left(b\,C\,d\,e+b\,c\,C\,f+7\,b\,B\,d\,f-6\,a\,C\,d\,f\right)x}{35\,b^2\,d\,f}+\frac{2\,C\,x^2}{7\,b}\right)-$$

$$\frac{1}{105\,b^5\,d^2\,f^2}\,2\left(\frac{1}{d\,f\,\sqrt{c+\frac{(a+b\,x)\left(d-\frac{a\,d}{a+b\,x}\right)}{b}}\,\sqrt{e+\frac{(a+b\,x)\left(f-\frac{a\,f}{a+b\,x}\right)}{b}}}\right.$$

$$\left(-8\,b^3\,C\,d^3\,e^3+5\,b^3\,c\,C\,d^2\,e^2\,f+14\,b^3\,B\,d^3\,e^2\,f-9\,a\,b^2\,C\,d^3\,e^2\,f+5\,b^3\,c^2\,C\,d\,e\,f^2-\right.$$
$$14\,b^3\,B\,c\,d^2\,e\,f^2+8\,a\,b^2\,c\,C\,d^2\,e\,f^2-35\,A\,b^3\,d^3\,e\,f^2+21\,a\,b^2\,B\,d^3\,e\,f^2-16\,a^2\,b\,C\,d^3\,e\,f^2-$$
$$\left.8\,b^3\,c^3\,C\,f^3+14\,b^3\,B\,c^2\,d\,f^3-9\,a\,b^2\,c^2\,C\,d\,f^3-35\,A\,b^3\,c\,d^2\,f^3+21\,a\,b^2\,B\,c\,d^2\,f^3-\right.$$
$$\left.16\,a^2\,b\,c\,C\,d^2\,f^3+70\,a\,A\,b^2\,d^3\,f^3-56\,a^2\,b\,B\,d^3\,f^3+48\,a^3\,C\,d^3\,f^3\right)\,(a+b\,x)^{3/2}$$
$$\left(d+\frac{b\,c}{a+b\,x}-\frac{a\,d}{a+b\,x}\right)\left(f+\frac{b\,e}{a+b\,x}-\frac{a\,f}{a+b\,x}\right)+\frac{1}{d\,f\,\sqrt{c+\frac{(a+b\,x)\left(d-\frac{a\,d}{a+b\,x}\right)}{b}}\,\sqrt{e+\frac{(a+b\,x)\left(f-\frac{a\,f}{a+b\,x}\right)}{b}}}$$
$$(-b\,c+a\,d)\,(-b\,e+a\,f)\,(a+b\,x)\sqrt{\left(d+\frac{b\,c}{a+b\,x}-\frac{a\,d}{a+b\,x}\right)\left(f+\frac{b\,e}{a+b\,x}-\frac{a\,f}{a+b\,x}\right)}$$
$$\left(\left(\left(8\,i\,b^3\,C\,d^3\,e^3\,f\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.\right.$$
$$\left.\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$
$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-\left(5\,i\,b^3\,c\,C\,d^2\right.$$
$$e^2\,f^2\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.$$
$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$
$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(14\,i\,b^3\,B\,d^3\,e^2\,f^2\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+\left(9\,i\,a\,b^2\,C\,d^3\right.$$

$$e^2\,f^2\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(5\,i\,b^3\,c^2\,C\,d\,e\,f^3\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+\left(14\,i\,b^3\,B\,c\right.$$

$$d^2\,e\,f^3\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.$$

$$\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-\left(8\,i\,a\,b^2\,c\,C\right.$$

$$d^2\,e\,f^3\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.$$

$$\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(35\,i\,A\,b^3\,d^3\,e\,f^3\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-\left(21\,i\,a\,b^2\,B\right.$$

$$d^3 e f^3 \sqrt{1-\frac{-b c+a d}{d (a+b x)}} \sqrt{1-\frac{-b e+a f}{f (a+b x)}} \left(\text{EllipticE}\left[i \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}} \right], \frac{d (-b e+a f)}{(-b c+a d) f} \right] - \text{EllipticF}\left[i \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}} \right], \frac{d (-b e+a f)}{(-b c+a d) f} \right] \right) /$$

$$\left(\sqrt{-\frac{-b c+a d}{d}} (-b e+a f) \sqrt{\left(d+\frac{b c-a d}{a+b x}\right) \left(f+\frac{b e-a f}{a+b x}\right)} \right) +$$

$$\left(16 i a^2 b C d^3 e f^3 \sqrt{1-\frac{-b c+a d}{d (a+b x)}} \sqrt{1-\frac{-b e+a f}{f (a+b x)}} \right.$$

$$\left(\text{EllipticE}\left[i \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}} \right], \frac{d (-b e+a f)}{(-b c+a d) f} \right] - \right.$$

$$\left. \left. \text{EllipticF}\left[i \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}} \right], \frac{d (-b e+a f)}{(-b c+a d) f} \right] \right) \right) /$$

$$\left(\sqrt{-\frac{-b c+a d}{d}} (-b e+a f) \sqrt{\left(d+\frac{b c-a d}{a+b x}\right) \left(f+\frac{b e-a f}{a+b x}\right)} \right) +$$

$$\left(8 i b^3 c^3 C f^4 \sqrt{1-\frac{-b c+a d}{d (a+b x)}} \sqrt{1-\frac{-b e+a f}{f (a+b x)}} \left(\text{EllipticE}\left[i \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}} \right], \frac{d (-b e+a f)}{(-b c+a d) f} \right] - \text{EllipticF}\left[i \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}} \right], \frac{d (-b e+a f)}{(-b c+a d) f} \right] \right) \right) /$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ (-b e+a f)\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)-$$

$$\left(14\, i\, b^3 B c^2 d f^4 \sqrt{1-\frac{-b c+a d}{d (a+b x)}}\ \sqrt{1-\frac{-b e+a f}{f (a+b x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d (-b e+a f)}{(-b c+a d) f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\ \frac{d (-b e+a f)}{(-b c+a d) f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ (-b e+a f)\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)+$$

$$\left(9\, i\, a b^2 c^2 C d f^4 \sqrt{1-\frac{-b c+a d}{d (a+b x)}}\ \sqrt{1-\frac{-b e+a f}{f (a+b x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d (-b e+a f)}{(-b c+a d) f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\ \frac{d (-b e+a f)}{(-b c+a d) f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ (-b e+a f)\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)+$$

$$\left(35\, i\, A b^3 c d^2 f^4 \sqrt{1-\frac{-b c+a d}{d (a+b x)}}\ \sqrt{1-\frac{-b e+a f}{f (a+b x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d (-b e+a f)}{(-b c+a d) f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\ \frac{d (-b e+a f)}{(-b c+a d) f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ (-b e+a f)\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)-$$

$$\left(21\,i\,a\,b^2\,B\,c\,d^2\,f^4\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\right.$$

$$\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\right.$$

$$\left.\left.\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(16\,i\,a^2\,b\,c\,C\,d^2\,f^4\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\right.$$

$$\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\right.$$

$$\left.\left.\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(70\,i\,a\,A\,b^2\,d^3\,f^4\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big] - \text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]\Bigg)\Bigg) \Big/$$

$$\Bigg(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\sqrt{\Big(d+\frac{b\,c-a\,d}{a+b\,x}\Big)\Big(f+\frac{b\,e-a\,f}{a+b\,x}\Big)}\Bigg) +$$

$$\Bigg(56\,i\,a^2\,b\,B\,d^3\,f^4\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\Bigg(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],$$

$$\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big] - \text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]\Bigg)\Bigg) \Big/$$

$$\Bigg(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\sqrt{\Big(d+\frac{b\,c-a\,d}{a+b\,x}\Big)\Big(f+\frac{b\,e-a\,f}{a+b\,x}\Big)}\Bigg) -$$

$$\Bigg(48\,i\,a^3\,C\,d^3\,f^4\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\Bigg(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],$$

$$\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big] - \text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]\Bigg)\Bigg) \Big/$$

$$\Bigg(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\sqrt{\Big(d+\frac{b\,c-a\,d}{a+b\,x}\Big)\Big(f+\frac{b\,e-a\,f}{a+b\,x}\Big)}\Bigg) -$$

$$\Bigg(4\,i\,b^2\,C\,d^3\,e^2\,f\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}$$

$$\text{EllipticF}\left[\text{i ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right], \frac{d\left(-b e+a f\right)}{\left(-b c+a d\right) f}\right]\Bigg) \Bigg/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right) + \Bigg(2\,\text{i}\,b^2\,c\,C\,d^2\,e\,f^2\sqrt{1-\frac{-b c+a d}{d\left(a+b x\right)}}$$

$$\sqrt{1-\frac{-b e+a f}{f\left(a+b x\right)}}\ \text{EllipticF}\left[\text{i ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right], \frac{d\left(-b e+a f\right)}{\left(-b c+a d\right) f}\right]\Bigg) \Bigg/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right) + \Bigg(7\,\text{i}\,b^2\,B\,d^3\,e\,f^2\sqrt{1-\frac{-b c+a d}{d\left(a+b x\right)}}$$

$$\sqrt{1-\frac{-b e+a f}{f\left(a+b x\right)}}\ \text{EllipticF}\left[\text{i ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right], \frac{d\left(-b e+a f\right)}{\left(-b c+a d\right) f}\right]\Bigg) \Bigg/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right) - \Bigg(8\,\text{i}\,a\,b\,C\,d^3\,e\,f^2\sqrt{1-\frac{-b c+a d}{d\left(a+b x\right)}}$$

$$\sqrt{1-\frac{-b e+a f}{f\left(a+b x\right)}}\ \text{EllipticF}\left[\text{i ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right], \frac{d\left(-b e+a f\right)}{\left(-b c+a d\right) f}\right]\Bigg) \Bigg/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right) - \Bigg(4\,\text{i}\,b^2\,c^2\,C\,d\,f^3\sqrt{1-\frac{-b c+a d}{d\left(a+b x\right)}}$$

$$\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\ \text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\Bigg)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ \sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+\Bigg(7\,i\,b^2\,B\,c\,d^2\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}$$

$$\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\ \text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\Bigg)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ \sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-\Bigg(8\,i\,a\,b\,c\,C\,d^2\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}$$

$$\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\ \text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\Bigg)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ \sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-\Bigg(70\,i\,A\,b^2\,d^3\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}$$

$$\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\ \text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\Bigg)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ \sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+\Bigg(56\,i\,a\,b\,B\,d^3\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}$$

$$\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\ \text{EllipticF}\left[i\ \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ \sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-\Bigg(48\,i\,a^2\,C\,d^3\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}$$

$$\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\ \text{EllipticF}\left[i\ \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ \sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)\Bigg)\Bigg)$$

Problem 63: Result unnecessarily involves complex numbers and more than twice size of optimal antiderivative.

$$\int\frac{\sqrt{c+d\,x}\ \sqrt{e+f\,x}\ \left(A+B\,x+C\,x^2\right)}{(a+b\,x)^{3/2}}\,dx$$

Optimal (type 4, 706 leaves, 9 steps):

$$\left(2\left(24a^2Cdf^2-abf\left(7Cde+cCf+20Bdf\right)+b^2\left(5df\left(Be+3Af\right)-Ce\left(2de-cf\right)\right)\right)\right.$$
$$\left.\sqrt{a+bx}\,\sqrt{c+dx}\,\sqrt{e+fx}\right)\Big/\left(15b^3df\left(be-af\right)\right)+$$
$$\left(2\left(6a^2Cdf+b^2\left(cCe+5Adf\right)-ab\left(Cde+cCf+5Bdf\right)\right)\sqrt{a+bx}\,\sqrt{c+dx}\,\left(e+fx\right)^{3/2}\right)\Big/$$
$$\left(5b^2\left(bc-ad\right)f\left(be-af\right)\right)-\frac{2\left(Ab^2-a\left(bB-aC\right)\right)\left(c+dx\right)^{3/2}\left(e+fx\right)^{3/2}}{b\left(bc-ad\right)\left(be-af\right)\sqrt{a+bx}}+$$
$$\left(2\sqrt{-bc+ad}\,\left(48a^2Cd^2f^2-8abdf\left(Cde+cCf+5Bdf\right)+\right.\right.$$
$$\left.b^2\left(5df\left(Bde+Bcf+6Adf\right)-2C\left(d^2e^2-cdef+c^2f^2\right)\right)\right)\sqrt{\frac{b\left(c+dx\right)}{bc-ad}}\,\sqrt{e+fx}$$
$$\left.\text{EllipticE}\left[\text{ArcSin}\left[\frac{\sqrt{d}\,\sqrt{a+bx}}{\sqrt{-bc+ad}}\right],\frac{\left(bc-ad\right)f}{d\left(be-af\right)}\right]\right)\Big/\left(15b^4d^{3/2}f^2\sqrt{c+dx}\,\sqrt{\frac{b\left(e+fx\right)}{be-af}}\right)-$$
$$\left(2\sqrt{-bc+ad}\,\left(de-cf\right)\left(24a^2Cdf^2-abf\left(7Cde+cCf+20Bdf\right)+\right.\right.$$
$$\left.b^2\left(5df\left(Be+3Af\right)-Ce\left(2de-cf\right)\right)\right)\sqrt{\frac{b\left(c+dx\right)}{bc-ad}}\,\sqrt{\frac{b\left(e+fx\right)}{be-af}}$$
$$\left.\text{EllipticF}\left[\text{ArcSin}\left[\frac{\sqrt{d}\,\sqrt{a+bx}}{\sqrt{-bc+ad}}\right],\frac{\left(bc-ad\right)f}{d\left(be-af\right)}\right]\right)\Big/\left(15b^4d^{3/2}f^2\sqrt{c+dx}\,\sqrt{e+fx}\right)$$

Result (type 4, 9487 leaves):

$$\sqrt{a+bx}\,\sqrt{c+dx}\,\sqrt{e+fx}$$
$$\left(\frac{2\left(bCde+bcCf+5bBdf-9aCdf\right)}{15b^3df}+\frac{2Cx}{5b^2}-\frac{2\left(Ab^2-abB+a^2C\right)}{b^3\left(a+bx\right)}\right)+\frac{1}{15b^5df}$$
$$2\left(\left(\left(-2b^2Cd^2e^2+2b^2cCdef+5b^2Bd^2ef-8abCd^2ef-2b^2c^2Cf^2+5b^2Bcdf^2-8abcCdf^2+\right.\right.\right.$$
$$\left.\left.30Ab^2d^2f^2-40abBd^2f^2+48a^2Cd^2f^2\right)\left(a+bx\right)^{3/2}\left(d+\frac{bc}{a+bx}-\frac{ad}{a+bx}\right)\right.$$
$$\left.\left(f+\frac{be}{a+bx}-\frac{af}{a+bx}\right)\right)\Big/\left(df\sqrt{c+\frac{\left(a+bx\right)\left(d-\frac{ad}{a+bx}\right)}{b}}\,\sqrt{e+\frac{\left(a+bx\right)\left(f-\frac{af}{a+bx}\right)}{b}}\right)+$$

$$\frac{1}{d f \sqrt{c+\frac{(a+b x)\left(d-\frac{a d}{a+b x}\right)}{b}} \sqrt{e+\frac{(a+b x)\left(f-\frac{a f}{a+b x}\right)}{b}}}$$

$$(a+b x) \sqrt{\left(d+\frac{b c}{a+b x}-\frac{a d}{a+b x}\right)\left(f+\frac{b e}{a+b x}-\frac{a f}{a+b x}\right)}$$

$$\left(\left(\left(2 i b^4 c C d^2 e^3 f \sqrt{1-\frac{-b c+a d}{d(a+b x)}} \sqrt{1-\frac{-b e+a f}{f(a+b x)}}\left(\text{EllipticE}\left[i \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right], \frac{d(-b e+a f)}{(-b c+a d) f}\right]-\text{EllipticF}\left[i \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right], \frac{d(-b e+a f)}{(-b c+a d) f}\right]\right)\right) \Big/ \left(\sqrt{-\frac{-b c+a d}{d}}(-b e+a f) \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)-\left(2 i a b^3 C d^3 e^3 f \sqrt{1-\frac{-b c+a d}{d(a+b x)}} \sqrt{1-\frac{-b e+a f}{f(a+b x)}}\left(\text{EllipticE}\left[i \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right], \frac{d(-b e+a f)}{(-b c+a d) f}\right]-\text{EllipticF}\left[i \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right], \frac{d(-b e+a f)}{(-b c+a d) f}\right]\right)\right) \Big/ \left(\sqrt{-\frac{-b c+a d}{d}}(-b e+a f) \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)-\left(2 i b^4 c^2 C d e^2 f^2 \sqrt{1-\frac{-b c+a d}{d(a+b x)}} \sqrt{1-\frac{-b e+a f}{f(a+b x)}}\left(\text{EllipticE}\left[i \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\right.\right.\right.$$

$$\frac{d\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\Big]-\text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\Big]\Bigg)\Bigg)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ \left(-b\,e+a\,f\right)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-\Bigg(5\,i\,b^4\,B\,c\,d^2$$

$$e^2\,f^2\sqrt{1-\frac{-b\,c+a\,d}{d\left(a+b\,x\right)}}\sqrt{1-\frac{-b\,e+a\,f}{f\left(a+b\,x\right)}}\Bigg(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],$$

$$\frac{d\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\Big]-\text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\Big]\Bigg)\Bigg)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ \left(-b\,e+a\,f\right)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+\Bigg(8\,i\,a\,b^3\,c\,C$$

$$d^2\,e^2\,f^2\sqrt{1-\frac{-b\,c+a\,d}{d\left(a+b\,x\right)}}\sqrt{1-\frac{-b\,e+a\,f}{f\left(a+b\,x\right)}}\Bigg(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],$$

$$\frac{d\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\Big]-\text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\Big]\Bigg)\Bigg)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ \left(-b\,e+a\,f\right)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+\Bigg(5\,i\,a\,b^3\,B\,d^3$$

$$e^2 f^2 \sqrt{1-\frac{-b c+a d}{d (a+b x)}} \sqrt{1-\frac{-b e+a f}{f (a+b x)}} \left(\text{EllipticE}\left[i \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}} \right], \frac{d (-b e+a f)}{(-b c+a d) f} \right] - \text{EllipticF}\left[i \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}} \right], \frac{d (-b e+a f)}{(-b c+a d) f} \right] \right) /$$

$$\left(\sqrt{-\frac{-b c+a d}{d}} (-b e+a f) \sqrt{\left(d+\frac{b c-a d}{a+b x}\right) \left(f+\frac{b e-a f}{a+b x}\right)} \right) -$$

$$\left(6 i a^2 b^2 C d^3 e^2 f^2 \sqrt{1-\frac{-b c+a d}{d (a+b x)}} \sqrt{1-\frac{-b e+a f}{f (a+b x)}} \right.$$

$$\left(\text{EllipticE}\left[i \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}} \right], \frac{d (-b e+a f)}{(-b c+a d) f} \right] - \right.$$

$$\left. \left. \text{EllipticF}\left[i \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}} \right], \frac{d (-b e+a f)}{(-b c+a d) f} \right] \right) \right) /$$

$$\left(\sqrt{-\frac{-b c+a d}{d}} (-b e+a f) \sqrt{\left(d+\frac{b c-a d}{a+b x}\right) \left(f+\frac{b e-a f}{a+b x}\right)} \right) +$$

$$\left(2 i b^4 c^3 C e f^3 \sqrt{1-\frac{-b c+a d}{d (a+b x)}} \sqrt{1-\frac{-b e+a f}{f (a+b x)}} \left(\text{EllipticE}\left[i \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}} \right], \frac{d (-b e+a f)}{(-b c+a d) f} \right] - \text{EllipticF}\left[i \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}} \right], \frac{d (-b e+a f)}{(-b c+a d) f} \right] \right) \right) /$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ (-b e+a f)\sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)-$$

$$\left(5 i b^4 B c^2 d e f^3\sqrt{1-\frac{-b c+a d}{d (a+b x)}}\sqrt{1-\frac{-b e+a f}{f (a+b x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d (-b e+a f)}{(-b c+a d) f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\frac{d (-b e+a f)}{(-b c+a d) f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ (-b e+a f)\sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)+$$

$$\left(8 i a b^3 c^2 C d e f^3\sqrt{1-\frac{-b c+a d}{d (a+b x)}}\sqrt{1-\frac{-b e+a f}{f (a+b x)}}\right.$$

$$\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\frac{d (-b e+a f)}{(-b c+a d) f}\right]-\right.$$

$$\left.\left.\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\frac{d (-b e+a f)}{(-b c+a d) f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ (-b e+a f)\sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)-$$

$$\left(30 i A b^4 c d^2 e f^3\sqrt{1-\frac{-b c+a d}{d (a+b x)}}\sqrt{1-\frac{-b e+a f}{f (a+b x)}}\right.$$

$$\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\right.$$

$$\left.\left.\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\ \sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(50\,i\,a\,b^3\,B\,c\,d^2\,e\,f^3\ \sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\ \sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\right.$$

$$\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\right.$$

$$\left.\left.\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\ \sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(66\,i\,a^2\,b^2\,c\,C\,d^2\,e\,f^3\ \sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\ \sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\right.$$

$$\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\right.$$

$$\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\Bigg)\Bigg)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(30\,i\,a\,A\,b^3\,d^3\,e\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\ \sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\right.$$

$$\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\right.$$

$$\left.\left.\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(45\,i\,a^2\,b^2\,B\,d^3\,e\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\ \sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\right.$$

$$\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\right.$$

$$\left.\left.\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Bigg/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ (-b e+a f)\sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)+$$

$$\left(56\,i\,a^3\,b\,C\,d^3\,e\,f^3\sqrt{1-\frac{-b c+a d}{d\,(a+b x)}}\sqrt{1-\frac{-b e+a f}{f\,(a+b x)}}\right.$$

$$\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\frac{d\,(-b e+a f)}{(-b c+a d)\,f}\right]-\right.$$

$$\left.\left.\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\frac{d\,(-b e+a f)}{(-b c+a d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ (-b e+a f)\sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)-$$

$$\left(2\,i\,a\,b^3\,c^3\,C\,f^4\sqrt{1-\frac{-b c+a d}{d\,(a+b x)}}\sqrt{1-\frac{-b e+a f}{f\,(a+b x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b e+a f)}{(-b c+a d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\frac{d\,(-b e+a f)}{(-b c+a d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ (-b e+a f)\sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)+$$

$$\left(5\,i\,a\,b^3\,B\,c^2\,d\,f^4\sqrt{1-\frac{-b c+a d}{d\,(a+b x)}}\sqrt{1-\frac{-b e+a f}{f\,(a+b x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\right.\right.\right.$$

$$\frac{d\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\Big] - \text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\Big]\Bigg)\Bigg)\Big/$$

$$\Bigg(\sqrt{-\frac{-b\,c+a\,d}{d}}\ \left(-b\,e+a\,f\right)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\Bigg) -$$

$$\Bigg(6\,i\,a^2\,b^2\,c^2\,C\,d\,f^4\sqrt{1-\frac{-b\,c+a\,d}{d\left(a+b\,x\right)}}\ \sqrt{1-\frac{-b\,e+a\,f}{f\left(a+b\,x\right)}}$$

$$\Bigg(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\Big] -$$

$$\text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\Big]\Bigg)\Bigg)\Big/$$

$$\Bigg(\sqrt{-\frac{-b\,c+a\,d}{d}}\ \left(-b\,e+a\,f\right)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\Bigg) +$$

$$\Bigg(30\,i\,a\,A\,b^3\,c\,d^2\,f^4\sqrt{1-\frac{-b\,c+a\,d}{d\left(a+b\,x\right)}}\ \sqrt{1-\frac{-b\,e+a\,f}{f\left(a+b\,x\right)}}$$

$$\Bigg(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\Big] -$$

$$\text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\Big]\Bigg)\Bigg)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ (-b e+a f)\sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)-$$

$$\left(45 i a^2 b^2 B c d^2 f^4\sqrt{1-\frac{-b c+a d}{d (a+b x)}}\sqrt{1-\frac{-b e+a f}{f (a+b x)}}\right.$$

$$\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\frac{d (-b e+a f)}{(-b c+a d) f}\right]-\right.$$

$$\left.\left.\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\frac{d (-b e+a f)}{(-b c+a d) f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ (-b e+a f)\sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)+$$

$$\left(56 i a^3 b c C d^2 f^4\sqrt{1-\frac{-b c+a d}{d (a+b x)}}\sqrt{1-\frac{-b e+a f}{f (a+b x)}}\right.$$

$$\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\frac{d (-b e+a f)}{(-b c+a d) f}\right]-\right.$$

$$\left.\left.\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\frac{d (-b e+a f)}{(-b c+a d) f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ (-b e+a f)\sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)-$$

$$\left(30\,i\,a^2\,A\,b^2\,d^3\,f^4\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(40\,i\,a^3\,b\,B\,d^3\,f^4\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(48\,i\,a^4\,C\,d^3\,f^4\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(i\, b^3\, c\, C\, d^2\, e^2\, f\, \sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\, \sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\right.$$

$$\left.\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right) /$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\, \sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right) + \left(i\, a\, b^2\, C\, d^3\, e^2\, f\, \sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\right.$$

$$\left.\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\ \text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right) /$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\, \sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right) - \left(i\, b^3\, c^2\, C\, d\, e\, f^2\, \sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\right.$$

$$\left.\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\ \text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right) /$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\, \sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right) + \left(10\, i\, b^3\, B\, c\, d^2\, e\, f^2\, \sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\right.$$

$$\left.\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\ \text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right) /$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-\left(16\,i\,a\,b^2\,c\,C\,d^2\,e\,f^2\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\right.$$

$$\left.\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\,\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+\left(15\,i\,A\,b^3\,d^3\,e\,f^2\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\right.$$

$$\left.\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\,\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-\left(25\,i\,a\,b^2\,B\,d^3\,e\,f^2\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\right.$$

$$\left.\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\,\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+\left(32\,i\,a^2\,b\,C\,d^3\,e\,f^2\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\right.$$

$$\left.\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\,\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)+\left(i\, a b^2 c^2 C d f^3\sqrt{1-\frac{-b c+a d}{d\,(a+b x)}}\right.$$

$$\left.\sqrt{1-\frac{-b e+a f}{f\,(a+b x)}}\ \text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\ \frac{d\,(-b e+a f)}{(-b c+a d)\,f}\right]\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)+\left(15\, i\, A b^3 c d^2 f^3\sqrt{1-\frac{-b c+a d}{d\,(a+b x)}}\right.$$

$$\left.\sqrt{1-\frac{-b e+a f}{f\,(a+b x)}}\ \text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\ \frac{d\,(-b e+a f)}{(-b c+a d)\,f}\right]\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)-\left(25\, i\, a b^2 B c d^2 f^3\sqrt{1-\frac{-b c+a d}{d\,(a+b x)}}\right.$$

$$\left.\sqrt{1-\frac{-b e+a f}{f\,(a+b x)}}\ \text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\ \frac{d\,(-b e+a f)}{(-b c+a d)\,f}\right]\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)+$$

$$\left(32\, i\, a^2 b c C d^2 f^3\sqrt{1-\frac{-b c+a d}{d\,(a+b x)}}\ \sqrt{1-\frac{-b e+a f}{f\,(a+b x)}}\right.$$

$$\left.\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\ \frac{d\,(-b e+a f)}{(-b c+a d)\,f}\right]\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-\left(30\,i\,a\,A\,b^2\,d^3\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\right.$$

$$\left.\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\;\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+\left(40\,i\,a^2\,b\,B\,d^3\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\right.$$

$$\left.\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\;\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(48\,i\,a^3\,C\,d^3\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\;\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.$$

$$\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Big/\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)\Big)$$

Problem 64: Result unnecessarily involves complex numbers and more than twice size of optimal antiderivative.

$$\int\frac{\sqrt{c+d\,x}\,\sqrt{e+f\,x}\,\left(A+B\,x+C\,x^2\right)}{(a+b\,x)^{5/2}}\,dx$$

Optimal (type 4, 687 leaves, 9 steps):

$$\left(2\left(8a^2Cdf+b^2\left(cCe+3Bcf+Adf\right)-ab\left(Cde+7cCf+4Bdf\right)\right)\sqrt{a+bx}\,\sqrt{c+dx}\,\sqrt{e+fx}\right)\Big/$$
$$\left(3b^3\left(bc-ad\right)\left(be-af\right)\right)-\frac{2\left(bB-2aC\right)\sqrt{c+dx}\,\left(e+fx\right)^{3/2}}{b^2\left(be-af\right)\sqrt{a+bx}}-$$
$$\frac{2\left(Ab^2-a\left(bB-aC\right)\right)\left(c+dx\right)^{3/2}\left(e+fx\right)^{3/2}}{3b\left(bc-ad\right)\left(be-af\right)\left(a+bx\right)^{3/2}}+$$
$$\left(2\left(16a^3Cd^2f^2-8a^2bdf\left(Bdf+2C\left(de+cf\right)\right)-b^3\left(c^2Cef+Ad^2ef+cd\left(Ce^2+6Bef+Af^2\right)\right)+\right.\right.$$
$$\left.\left.ab^2\left(df\left(7Bde+7Bcf+2Adf\right)+C\left(d^2e^2+16cdef+c^2f^2\right)\right)\right)$$
$$\sqrt{\frac{b\left(c+dx\right)}{bc-ad}}\,\sqrt{e+fx}\,\text{EllipticE}\left[\text{ArcSin}\left[\frac{\sqrt{d}\,\sqrt{a+bx}}{\sqrt{-bc+ad}}\right],\frac{\left(bc-ad\right)f}{d\left(be-af\right)}\right]\Bigg)\Big/$$
$$\left(3b^4\sqrt{d}\,\sqrt{-bc+ad}\,f\left(be-af\right)\sqrt{c+dx}\,\sqrt{\frac{b\left(e+fx\right)}{be-af}}\right)+$$
$$\left(2\left(de-cf\right)\left(8a^2Cdf+b^2\left(cCe+3Bcf+Adf\right)-ab\left(Cde+7cCf+4Bdf\right)\right)\right.$$
$$\left.\sqrt{\frac{b\left(c+dx\right)}{bc-ad}}\,\sqrt{\frac{b\left(e+fx\right)}{be-af}}\,\text{EllipticF}\left[\text{ArcSin}\left[\frac{\sqrt{d}\,\sqrt{a+bx}}{\sqrt{-bc+ad}}\right],\frac{\left(bc-ad\right)f}{d\left(be-af\right)}\right]\right)\Big/$$
$$\left(3b^4\sqrt{d}\,\sqrt{-bc+ad}\,f\sqrt{c+dx}\,\sqrt{e+fx}\right)$$

Result (type 4, 5831 leaves):

$$\sqrt{a+bx}\,\sqrt{c+dx}\,\sqrt{e+fx}$$
$$\left(\frac{2C}{3b^3}-\frac{2\left(Ab^2-abB+a^2C\right)}{3b^3\left(a+bx\right)^2}-\left(2\left(3b^3Bce-6ab^2cCe+Ab^3de-4ab^2Bde+7a^2bCde+\right.\right.\right.$$
$$\left.\left.\left.Ab^3cf-4ab^2Bcf+7a^2bcCf-2aAb^2df+5a^2bBdf-8a^3Cdf\right)\right)\Big/$$
$$\left.\left(3b^3\left(bc-ad\right)\left(be-af\right)\left(a+bx\right)\right)\right)-\frac{1}{3b^5\left(bc-ad\right)\left(be-af\right)}$$
$$2\left(\left(\left(-b^3cCde^2+ab^2Cd^2e^2-b^3c^2Cef-6b^3Bcdef+16ab^2cCdef-Ab^3d^2ef+7ab^2Bd^2ef-\right.\right.\right.$$
$$\left.\left.\left.16a^2bCd^2ef+ab^2c^2Cf^2-Ab^3cdf^2+7ab^2Bcdf^2-16a^2bcCdf^2+2aAb^2d^2f^2-\right.\right.\right.$$
$$\left.\left.\left.8a^2bBd^2f^2+16a^3Cd^2f^2\right)\left(a+bx\right)^{3/2}\left(d+\frac{bc}{a+bx}-\frac{ad}{a+bx}\right)\left(f+\frac{be}{a+bx}-\frac{af}{a+bx}\right)\right)\Big/$$

$$\left(d f \sqrt{c+\frac{(a+b x)\left(d-\frac{a d}{a+b x}\right)}{b}}\ \sqrt{e+\frac{(a+b x)\left(f-\frac{a f}{a+b x}\right)}{b}}\right)+$$

$$\frac{1}{d f \sqrt{c+\frac{(a+b x)\left(d-\frac{a d}{a+b x}\right)}{b}}\ \sqrt{e+\frac{(a+b x)\left(f-\frac{a f}{a+b x}\right)}{b}}}$$

$$(-b c+a d)(-b e+a f)(a+b x)\sqrt{\left(d+\frac{b c}{a+b x}-\frac{a d}{a+b x}\right)\left(f+\frac{b e}{a+b x}-\frac{a f}{a+b x}\right)}$$

$$\left(\left(\left(i b^3 c C d e^2 f \sqrt{1-\frac{-b c+a d}{d(a+b x)}}\ \sqrt{1-\frac{-b e+a f}{f(a+b x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\frac{d(-b e+a f)}{(-b c+a d) f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\frac{d(-b e+a f)}{(-b c+a d) f}\right]\right)\right)\Big/\left(\sqrt{-\frac{-b c+a d}{d}}(-b e+a f)\sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)-\left(i a b^2 C d^2 e^2 f \sqrt{1-\frac{-b c+a d}{d(a+b x)}}\ \sqrt{1-\frac{-b e+a f}{f(a+b x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\frac{d(-b e+a f)}{(-b c+a d) f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\frac{d(-b e+a f)}{(-b c+a d) f}\right]\right)\right)\Big/\left(\sqrt{-\frac{-b c+a d}{d}}(-b e+a f)\sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)+\left(i b^3 c^2 C e f^2 \sqrt{1-\frac{-b c+a d}{d(a+b x)}}\ \sqrt{1-\frac{-b e+a f}{f(a+b x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\right.\right.\right.$$

$$\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big] - \text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]\Bigg)\Bigg)\Big/$$

$$\Bigg(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\sqrt{\Big(d+\frac{b\,c-a\,d}{a+b\,x}\Big)\Big(f+\frac{b\,e-a\,f}{a+b\,x}\Big)}\Bigg) +$$

$$\Bigg(6\,i\,b^3\,B\,c\,d\,e\,f^2\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\Bigg(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],$$

$$\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big] - \text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]\Bigg)\Bigg)\Big/$$

$$\Bigg(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\sqrt{\Big(d+\frac{b\,c-a\,d}{a+b\,x}\Big)\Big(f+\frac{b\,e-a\,f}{a+b\,x}\Big)}\Bigg) - \Bigg(16\,i\,a\,b^2\,c$$

$$C\,d\,e\,f^2\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\Bigg(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],$$

$$\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big] - \text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]\Bigg)\Bigg)\Big/$$

$$\Bigg(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\sqrt{\Big(d+\frac{b\,c-a\,d}{a+b\,x}\Big)\Big(f+\frac{b\,e-a\,f}{a+b\,x}\Big)}\Bigg) +$$

$$\Bigg(i\,A\,b^3\,d^2\,e\,f^2\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\Bigg(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],$$

$$\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big] - \text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]\Bigg)\Bigg)\Big/$$

$$\Bigg(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\sqrt{\Big(d+\frac{b\,c-a\,d}{a+b\,x}\Big)\Big(f+\frac{b\,e-a\,f}{a+b\,x}\Big)}\Bigg) -$$

$$\Bigg(7\,i\,a\,b^2\,B\,d^2\,e\,f^2\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\Bigg(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],$$

$$\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big] - \text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]\Bigg)\Bigg)\Big/$$

$$\Bigg(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\sqrt{\Big(d+\frac{b\,c-a\,d}{a+b\,x}\Big)\Big(f+\frac{b\,e-a\,f}{a+b\,x}\Big)}\Bigg) + \Bigg(16\,i\,a^2\,b\,C$$

$$d^2\,e\,f^2\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\Bigg(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],$$

$$\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big] - \text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]\Bigg)\Bigg)\Big/$$

$$\Bigg(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\sqrt{\Big(d+\frac{b\,c-a\,d}{a+b\,x}\Big)\Big(f+\frac{b\,e-a\,f}{a+b\,x}\Big)}\Bigg) -$$

$$\Bigg(i\,a\,b^2\,c^2\,C\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\Bigg(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],$$

$$\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]-\text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]\Bigg)\Bigg)\Big/$$

$$\Bigg(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\sqrt{\Big(d+\frac{b\,c-a\,d}{a+b\,x}\Big)\Big(f+\frac{b\,e-a\,f}{a+b\,x}\Big)}\Bigg)+$$

$$\Bigg(i\,A\,b^3\,c\,d\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\Bigg(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],$$

$$\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]-\text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]\Bigg)\Bigg)\Big/$$

$$\Bigg(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\sqrt{\Big(d+\frac{b\,c-a\,d}{a+b\,x}\Big)\Big(f+\frac{b\,e-a\,f}{a+b\,x}\Big)}\Bigg)-$$

$$\Bigg(7\,i\,a\,b^2\,B\,c\,d\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\Bigg(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],$$

$$\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]-\text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]\Bigg)\Bigg)\Big/$$

$$\Bigg(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\sqrt{\Big(d+\frac{b\,c-a\,d}{a+b\,x}\Big)\Big(f+\frac{b\,e-a\,f}{a+b\,x}\Big)}\Bigg)+$$

$$\Bigg(16\,i\,a^2\,b\,c\,C\,d\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\Bigg(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],$$

$$\frac{d\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\Big]-\text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\Big]\Bigg)\Bigg)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ \left(-b\,e+a\,f\right)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\Bigg(2\,i\,a\,A\,b^2\,d^2\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\left(a+b\,x\right)}}\ \sqrt{1-\frac{-b\,e+a\,f}{f\left(a+b\,x\right)}}\ \Bigg(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],$$

$$\frac{d\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\Big]-\text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\Big]\Bigg)\Bigg)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ \left(-b\,e+a\,f\right)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\Bigg(8\,i\,a^2\,b\,B\,d^2\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\left(a+b\,x\right)}}\ \sqrt{1-\frac{-b\,e+a\,f}{f\left(a+b\,x\right)}}\ \Bigg(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],$$

$$\frac{d\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\Big]-\text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\Big]\Bigg)\Bigg)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ \left(-b\,e+a\,f\right)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\Bigg(16\,i\,a^3\,C\,d^2\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\left(a+b\,x\right)}}\ \sqrt{1-\frac{-b\,e+a\,f}{f\left(a+b\,x\right)}}\ \Bigg(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],$$

$$\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big] - \text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]\Bigg)\Bigg) \Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\ \sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right) -$$

$$\left(2\,i\,b^2\,c\,C\,d\,e\,f\ \sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\ \sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\ \text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\right.$$

$$\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]\right) \Big/ \left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ \sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right) -$$

$$\left(3\,i\,b^2\,B\,d^2\,e\,f\ \sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\ \sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\ \text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\right.$$

$$\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]\right) \Big/ \left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ \sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right) +$$

$$\left(8\,i\,a\,b\,C\,d^2\,e\,f\ \sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\ \sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\ \text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\right.$$

$$\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]\right) \Big/ \left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ \sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right) -$$

$$\left(3\,i\,b^2\,B\,c\,d\,f^2\ \sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\ \sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\ \text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\right.$$

$$\frac{d\left(-b e+a f\right)}{\left(-b c+a d\right) f}\Bigg]\Bigg/\left(\sqrt{-\frac{-b c+a d}{d}}\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)+$$

$$\left(8 i a b c C d f^2\sqrt{1-\frac{-b c+a d}{d\left(a+b x\right)}}\ \sqrt{1-\frac{-b e+a f}{f\left(a+b x\right)}}\ \text{EllipticF}\left[i\ \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\right.\right.$$

$$\frac{d\left(-b e+a f\right)}{\left(-b c+a d\right) f}\Bigg]\Bigg/\left(\sqrt{-\frac{-b c+a d}{d}}\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)-$$

$$\left(2 i A b^2 d^2 f^2\sqrt{1-\frac{-b c+a d}{d\left(a+b x\right)}}\ \sqrt{1-\frac{-b e+a f}{f\left(a+b x\right)}}\ \text{EllipticF}\left[i\ \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\right.\right.$$

$$\frac{d\left(-b e+a f\right)}{\left(-b c+a d\right) f}\Bigg]\Bigg/\left(\sqrt{-\frac{-b c+a d}{d}}\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)+$$

$$\left(8 i a b B d^2 f^2\sqrt{1-\frac{-b c+a d}{d\left(a+b x\right)}}\ \sqrt{1-\frac{-b e+a f}{f\left(a+b x\right)}}\ \text{EllipticF}\left[i\ \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\right.\right.$$

$$\frac{d\left(-b e+a f\right)}{\left(-b c+a d\right) f}\Bigg]\Bigg/\left(\sqrt{-\frac{-b c+a d}{d}}\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)-$$

$$\left(16 i a^2 C d^2 f^2\sqrt{1-\frac{-b c+a d}{d\left(a+b x\right)}}\ \sqrt{1-\frac{-b e+a f}{f\left(a+b x\right)}}\ \text{EllipticF}\left[i\ \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\right.\right.$$

$$\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Bigg]\Bigg/\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)\Bigg)$$

Problem 65: Result unnecessarily involves complex numbers and more than twice size of optimal antiderivative.

$$\int \frac{\sqrt{c+d\,x}\,\sqrt{e+f\,x}\,\left(A+B\,x+C\,x^2\right)}{(a+b\,x)^{7/2}}\,dx$$

Optimal (type 4, 964 leaves, 9 steps):

$$\left(2\left(24\,a^3\,C\,d^2\,f-a^2\,b\,d\left(23\,C\,d\,e+41\,c\,C\,f+4\,B\,d\,f\right)-b^3\left(15\,c^2\,C\,e-2\,A\,d^2\,e+c\,d\left(5\,B\,e+A\,f\right)\right)+\right.\right.$$
$$\left.\left.a\,b^2\left(15\,c^2\,C\,f+d^2\left(3\,B\,e-A\,f\right)+c\left(40\,C\,d\,e+6\,B\,d\,f\right)\right)\right)\sqrt{c+d\,x}\,\sqrt{e+f\,x}\right)\Big/$$
$$\left(15\,b^3\left(b\,c-a\,d\right)^2\left(b\,e-a\,f\right)\sqrt{a+b\,x}\right)+\left(2\left(6\,a^3\,C\,d\,f+a\,b^2\left(10\,c\,C\,e+3\,B\,d\,e+3\,B\,c\,f-4\,A\,d\,f\right)-\right.\right.$$
$$\left.\left.b^3\left(5\,B\,c\,e-2\,A\left(d\,e+c\,f\right)\right)-a^2\,b\left(B\,d\,f+8\,C\left(d\,e+c\,f\right)\right)\right)\sqrt{c+d\,x}\,(e+f\,x)^{3/2}\right)\Big/$$
$$\left(15\,b^2\left(b\,c-a\,d\right)\left(b\,e-a\,f\right)^2(a+b\,x)^{3/2}\right)-\frac{2\left(A\,b^2-a\left(b\,B-a\,C\right)\right)(c+d\,x)^{3/2}(e+f\,x)^{3/2}}{5\,b\left(b\,c-a\,d\right)\left(b\,e-a\,f\right)(a+b\,x)^{5/2}}+$$
$$\frac{1}{15\,b^4\left(-b\,c+a\,d\right)^{3/2}\left(b\,e-a\,f\right)^2\sqrt{c+d\,x}\,\sqrt{\frac{b\,(e+f\,x)}{b\,e-a\,f}}}$$
$$2\sqrt{d}\left(48\,a^4\,C\,d^2\,f^2-8\,a^3\,b\,d\,f\left(B\,d\,f+11\,C\left(d\,e+c\,f\right)\right)-\right.$$
$$b^4\left(2\,A\,d^2\,e^2-c\,d\,e\left(5\,B\,e+2\,A\,f\right)-c^2\left(30\,C\,e^2+5\,B\,e\,f-2\,A\,f^2\right)\right)-$$
$$a\,b^3\left(d^2\,e\left(3\,B\,e-2\,A\,f\right)+c^2\,f\left(70\,C\,e+3\,B\,f\right)+2\,c\,d\left(35\,C\,e^2+11\,B\,e\,f-A\,f^2\right)\right)+$$
$$\left.a^2\,b^2\left(2\,C\left(19\,d^2\,e^2+81\,c\,d\,e\,f+19\,c^2\,f^2\right)-d\,f\left(2\,A\,d\,f-13\,B\left(d\,e+c\,f\right)\right)\right)\right)$$
$$\sqrt{\frac{b\,(c+d\,x)}{b\,c-a\,d}}\,\sqrt{e+f\,x}\,\text{EllipticE}\left[\text{ArcSin}\left[\frac{\sqrt{d}\,\sqrt{a+b\,x}}{\sqrt{-b\,c+a\,d}}\right],\frac{(b\,c-a\,d)\,f}{d\,(b\,e-a\,f)}\right]+$$
$$\left(2\left(d\,e-c\,f\right)\left(24\,a^3\,C\,d^2\,f-a^2\,b\,d\left(23\,C\,d\,e+41\,c\,C\,f+4\,B\,d\,f\right)-b^3\right.\right.$$
$$\left.\left.\left(15\,c^2\,C\,e-2\,A\,d^2\,e+c\,d\left(5\,B\,e+A\,f\right)\right)+a\,b^2\left(15\,c^2\,C\,f+d^2\left(3\,B\,e-A\,f\right)+c\left(40\,C\,d\,e+6\,B\,d\,f\right)\right)\right)\right.$$
$$\left.\sqrt{\frac{b\,(c+d\,x)}{b\,c-a\,d}}\,\sqrt{\frac{b\,(e+f\,x)}{b\,e-a\,f}}\,\text{EllipticF}\left[\text{ArcSin}\left[\frac{\sqrt{d}\,\sqrt{a+b\,x}}{\sqrt{-b\,c+a\,d}}\right],\frac{(b\,c-a\,d)\,f}{d\,(b\,e-a\,f)}\right]\right)\Big/$$
$$\left(15\,b^4\sqrt{d}\,\left(-b\,c+a\,d\right)^{3/2}\left(b\,e-a\,f\right)\sqrt{c+d\,x}\,\sqrt{e+f\,x}\right)$$

Result (type 4, 9529 leaves):

$$\sqrt{a+b\,x}\,\sqrt{c+d\,x}\,\sqrt{e+f\,x}$$
$$\left(-\frac{2\left(A\,b^2-a\,b\,B+a^2\,C\right)}{5\,b^3\left(a+b\,x\right)^3}-\left(2\left(5\,b^3\,B\,c\,e-10\,a\,b^2\,c\,C\,e+A\,b^3\,d\,e-6\,a\,b^2\,B\,d\,e+11\,a^2\,b\,C\,d\,e+\right.\right.\right.$$

$$A b^3 c f - 6 a b^2 B c f + 11 a^2 b c C f - 2 a A b^2 d f + 7 a^2 b B d f - 12 a^3 C d f\Big)\Big) \Big/ \Big(15 b^3 (b c - a d) (b e - a f) (a + b x)^2\Big) - \frac{1}{15 b^3 (b c - a d)^2 (b e - a f)^2 (a + b x)}$$
$$2 \Big(15 b^4 c^2 C e^2 + 5 b^4 B c d e^2 - 40 a b^3 c C d e^2 - 2 A b^4 d^2 e^2 - 3 a b^3 B d^2 e^2 + 23 a^2 b^2 C d^2 e^2 + 5 b^4 B c^2 e f - 40 a b^3 c^2 C e f + 2 A b^4 c d e f - 22 a b^3 B c d e f + 102 a^2 b^2 c C d e f + 2 a A b^3 d^2 e f + 13 a^2 b^2 B d^2 e f - 58 a^3 b C d^2 e f - 2 A b^4 c^2 f^2 - 3 a b^3 B c^2 f^2 + 23 a^2 b^2 c^2 C f^2 + 2 a A b^3 c d f^2 + 13 a^2 b^2 B c d f^2 - 58 a^3 b c C d f^2 - 2 a^2 A b^2 d^2 f^2 - 8 a^3 b B d^2 f^2 + 33 a^4 C d^2 f^2\Big)\Big) +$$
$$\frac{1}{15 b^5 (b c - a d)^2 (b e - a f)^2} 2 \Bigg(\frac{1}{\sqrt{c + \frac{(a+b x)\left(d - \frac{a d}{a+b x}\right)}{b}}\ \sqrt{e + \frac{(a+b x)\left(f - \frac{a f}{a+b x}\right)}{b}}}$$
$$\Big(30 b^4 c^2 C e^2 + 5 b^4 B c d e^2 - 70 a b^3 c C d e^2 - 2 A b^4 d^2 e^2 - 3 a b^3 B d^2 e^2 + 38 a^2 b^2 C d^2 e^2 + 5 b^4 B c^2 e f - 70 a b^3 c^2 C e f + 2 A b^4 c d e f - 22 a b^3 B c d e f + 162 a^2 b^2 c C d e f + 2 a A b^3 d^2 e f + 13 a^2 b^2 B d^2 e f - 88 a^3 b C d^2 e f - 2 A b^4 c^2 f^2 - 3 a b^3 B c^2 f^2 + 38 a^2 b^2 c^2 C f^2 + 2 a A b^3 c d f^2 + 13 a^2 b^2 B c d f^2 - 88 a^3 b c C d f^2 - 2 a^2 A b^2 d^2 f^2 - 8 a^3 b B d^2 f^2 + 48 a^4 C d^2 f^2\Big)$$
$$(a + b x)^{3/2} \left(d + \frac{b c}{a + b x} - \frac{a d}{a + b x}\right) \left(f + \frac{b e}{a + b x} - \frac{a f}{a + b x}\right) -$$
$$\frac{1}{\sqrt{c + \frac{(a+b x)\left(d - \frac{a d}{a+b x}\right)}{b}}\ \sqrt{e + \frac{(a+b x)\left(f - \frac{a f}{a+b x}\right)}{b}}} (b c - a d) (b e - a f) (a + b x)$$
$$\sqrt{\left(d + \frac{b c}{a + b x} - \frac{a d}{a + b x}\right) \left(f + \frac{b e}{a + b x} - \frac{a f}{a + b x}\right)}$$
$$\Bigg(\Bigg(\Bigg(30 i b^4 c^2 C e^2 f \sqrt{1 - \frac{-b c + a d}{d (a + b x)}}\ \sqrt{1 - \frac{-b e + a f}{f (a + b x)}} \Bigg(\text{EllipticE}\Big[i \text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b c + a d}{d}}}{\sqrt{a + b x}}\Big], \frac{d (-b e + a f)}{(-b c + a d) f}\Big] - \text{EllipticF}\Big[i \text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b c + a d}{d}}}{\sqrt{a + b x}}\Big], \frac{d (-b e + a f)}{(-b c + a d) f}\Big]\Bigg)\Bigg) \Big/$$
$$\Bigg(\sqrt{-\frac{-b c + a d}{d}}\ (-b e + a f) \sqrt{\left(d + \frac{b c - a d}{a + b x}\right) \left(f + \frac{b e - a f}{a + b x}\right)}\Bigg) +$$

$$\left(5\,i\,b^4\,B\,c\,d\,e^2\,f\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-\left(70\,i\,a\,b^3\,c\right.$$

$$C\,d\,e^2\,f\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(2\,i\,A\,b^4\,d^2\,e^2\,f\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(3\,i\,a\,b^3\,B\,d^2\,e^2\,f\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+\left(38\,i\,a^2\,b^2\,C\right.$$

$$d^2\,e^2\,f\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(5\,i\,b^4\,B\,c^2\,e\,f^2\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-\left(70\,i\,a\,b^3\,c^2\right.$$

$$C\,e\,f^2\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.$$

$$\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(2\,i\,A\,b^4\,c\,d\,e\,f^2\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-\left(22\,i\,a\,b^3\,B\right.$$

$$c\,d\,e\,f^2\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.$$

$$\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(162\,i\,a^2\,b^2\,c\,C\,d\,e\,f^2\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\right.$$

$$\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\right.$$

$$\left.\left.\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(2\,i\,a\,A\,b^3\,d^2\,e\,f^2\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(13\,i\,a^2\,b^2\,B\,d^2\,e\,f^2\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\right.$$

$$\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\right.$$

$$\text{EllipticF}\left[\text{i ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right], \frac{d\left(-b e+a f\right)}{\left(-b c+a d\right) f}\right]\Bigg)\Bigg) \Bigg/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ \left(-b e+a f\right)\sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right) -$$

$$\left(88\,\text{i}\,a^3 b C d^2 e f^2\sqrt{1-\frac{-b c+a d}{d\left(a+b x\right)}}\sqrt{1-\frac{-b e+a f}{f\left(a+b x\right)}}\right.$$

$$\left(\text{EllipticE}\left[\text{i ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right], \frac{d\left(-b e+a f\right)}{\left(-b c+a d\right) f}\right] -\right.$$

$$\left.\text{EllipticF}\left[\text{i ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right], \frac{d\left(-b e+a f\right)}{\left(-b c+a d\right) f}\right]\right)\Bigg) \Bigg/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ \left(-b e+a f\right)\sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right) -$$

$$\left(2\,\text{i}\,A b^4 c^2 f^3\sqrt{1-\frac{-b c+a d}{d\left(a+b x\right)}}\sqrt{1-\frac{-b e+a f}{f\left(a+b x\right)}}\left(\text{EllipticE}\left[\text{i ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\left(-b e+a f\right)}{\left(-b c+a d\right) f}\right] - \text{EllipticF}\left[\text{i ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right], \frac{d\left(-b e+a f\right)}{\left(-b c+a d\right) f}\right]\right)\right) \Bigg/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ \left(-b e+a f\right)\sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right) -$$

$$\left(3\,i\,a\,b^3\,B\,c^2\,f^3\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(38\,i\,a^2\,b^2\,c^2\,C\,f^3\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(2\,i\,a\,A\,b^3\,c\,d\,f^3\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(13\,i\,a^2\,b^2\,B\,c\,d\,f^3\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\right.$$

$$\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\right.$$

$$\left.\left.\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(88\,i\,a^3\,b\,c\,C\,d\,f^3\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(2\,i\,a^2\,A\,b^2\,d^2\,f^3\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ (-b e+a f)\sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)-$$

$$\left(8 i a^3 b B d^2 f^3\sqrt{1-\frac{-b c+a d}{d (a+b x)}}\sqrt{1-\frac{-b e+a f}{f (a+b x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d (-b e+a f)}{(-b c+a d) f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\frac{d (-b e+a f)}{(-b c+a d) f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ (-b e+a f)\sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)+$$

$$\left(48 i a^4 C d^2 f^3\sqrt{1-\frac{-b c+a d}{d (a+b x)}}\sqrt{1-\frac{-b e+a f}{f (a+b x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d (-b e+a f)}{(-b c+a d) f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\frac{d (-b e+a f)}{(-b c+a d) f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ (-b e+a f)\sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)-$$

$$\left(15 i b^3 c C d e^2\sqrt{1-\frac{-b c+a d}{d (a+b x)}}\sqrt{1-\frac{-b e+a f}{f (a+b x)}}\right.$$

$$\left.\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\frac{d (-b e+a f)}{(-b c+a d) f}\right]\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)+\left(15 i a b^2 C d^2 e^2 \sqrt{1-\frac{-b c+a d}{d (a+b x)}}\right.$$

$$\left.\sqrt{1-\frac{-b e+a f}{f (a+b x)}}\ \text{EllipticF}\left[i\ \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\ \frac{d (-b e+a f)}{(-b c+a d) f}\right]\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)-\left(15 i b^3 c^2 C e f \sqrt{1-\frac{-b c+a d}{d (a+b x)}}\right.$$

$$\left.\sqrt{1-\frac{-b e+a f}{f (a+b x)}}\ \text{EllipticF}\left[i\ \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\ \frac{d (-b e+a f)}{(-b c+a d) f}\right]\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)-\left(10 i b^3 B c d e f \sqrt{1-\frac{-b c+a d}{d (a+b x)}}\right.$$

$$\left.\sqrt{1-\frac{-b e+a f}{f (a+b x)}}\ \text{EllipticF}\left[i\ \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\ \frac{d (-b e+a f)}{(-b c+a d) f}\right]\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)+\left(80 i a b^2 c C d e f \sqrt{1-\frac{-b c+a d}{d (a+b x)}}\right.$$

$$\left.\sqrt{1-\frac{-b e+a f}{f (a+b x)}}\ \text{EllipticF}\left[i\ \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\ \frac{d (-b e+a f)}{(-b c+a d) f}\right]\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)+\left(i A b^3 d^2 e f \sqrt{1-\frac{-b c+a d}{d (a+b x)}}\right.$$

$$\left.\sqrt{1-\frac{-b e+a f}{f (a+b x)}}\ \text{EllipticF}\left[i\ \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\ \frac{d (-b e+a f)}{(-b c+a d) f}\right]\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)+\left(9 i a b^2 B d^2 e f \sqrt{1-\frac{-b c+a d}{d (a+b x)}}\right.$$

$$\left.\sqrt{1-\frac{-b e+a f}{f (a+b x)}}\ \text{EllipticF}\left[i\ \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\ \frac{d (-b e+a f)}{(-b c+a d) f}\right]\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)-\left(64 i a^2 b C d^2 e f \sqrt{1-\frac{-b c+a d}{d (a+b x)}}\right.$$

$$\left.\sqrt{1-\frac{-b e+a f}{f (a+b x)}}\ \text{EllipticF}\left[i\ \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\ \frac{d (-b e+a f)}{(-b c+a d) f}\right]\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)+\left(15 i a b^2 c^2 C f^2 \sqrt{1-\frac{-b c+a d}{d (a+b x)}}\right.$$

$$\left.\sqrt{1-\frac{-b e+a f}{f (a+b x)}}\ \text{EllipticF}\left[i\ \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\ \frac{d (-b e+a f)}{(-b c+a d) f}\right]\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)+\left(i A b^3 c d f^2 \sqrt{1-\frac{-b c+a d}{d (a+b x)}}\right.$$

$$\left.\sqrt{1-\frac{-b e+a f}{f (a+b x)}}\ \text{EllipticF}\left[i \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right], \frac{d (-b e+a f)}{(-b c+a d) f}\right]\right) /$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)+\left(9 i a b^2 B c d f^2 \sqrt{1-\frac{-b c+a d}{d (a+b x)}}\right.$$

$$\left.\sqrt{1-\frac{-b e+a f}{f (a+b x)}}\ \text{EllipticF}\left[i \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right], \frac{d (-b e+a f)}{(-b c+a d) f}\right]\right) /$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)-\left(64 i a^2 b c C d f^2 \sqrt{1-\frac{-b c+a d}{d (a+b x)}}\right.$$

$$\left.\sqrt{1-\frac{-b e+a f}{f (a+b x)}}\ \text{EllipticF}\left[i \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right], \frac{d (-b e+a f)}{(-b c+a d) f}\right]\right) /$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)-\left(2 i a A b^2 d^2 f^2 \sqrt{1-\frac{-b c+a d}{d (a+b x)}}\right.$$

$$\left.\sqrt{1-\frac{-b e+a f}{f (a+b x)}}\ \text{EllipticF}\left[i \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right], \frac{d (-b e+a f)}{(-b c+a d) f}\right]\right) /$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-\left(8\,i\,a^2\,b\,B\,d^2\,f^2\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\right.$$

$$\left.\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\;\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+\left(48\,i\,a^3\,C\,d^2\,f^2\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\right.$$

$$\left.\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\;\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Big/$$

$$\left.\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)\right)$$

Problem 66: Result unnecessarily involves complex numbers and more than twice size of optimal antiderivative.

$$\int\frac{\sqrt{c+d\,x}\,\sqrt{e+f\,x}\,\left(A+B\,x+C\,x^2\right)}{(a+b\,x)^{9/2}}\,dx$$

Optimal (type 4, 1716 leaves, 10 steps):

$$-\left(\left(2\left(24a^4Cd^2f^2-a^3bdf\left(61Cde+43cCf-4Bdf\right)-3ab^3\left(d^2e\left(Be-3Af\right)+2c^2f\left(7Ce-Bf\right)+cd\left(28Ce^2-5Bef+5Af^2\right)\right)-b^4\left(4Ad^2e^2-cde\left(7Be-Af\right)-c^2\left(35Ce^2-14Bef+8Af^2\right)\right)-3a^2b^2\left(df\left(3Bde+2Bcf-Adf\right)-C\left(15d^2e^2+37cdef+5c^2f^2\right)\right)\right)\sqrt{c+dx}\sqrt{e+fx}\right)\Big/\left(105b^3\left(bc-ad\right)^2\left(be-af\right)^2\left(a+bx\right)^{3/2}\right)\right)+\frac{1}{105b^3\left(bc-ad\right)^3\left(be-af\right)^3\sqrt{a+bx}}$$

$$2\left(48a^5Cd^3f^3+8a^4bd^2f^2\left(Bdf-16C\left(de+cf\right)\right)-b^5\left(8Ad^3e^3-cd^2e^2\left(14Be+5Af\right)+c^2de\left(35Ce^2+14Bef-5Af^2\right)+c^3f\left(35Ce^2-14Bef+8Af^2\right)\right)-ab^4\left(d^3e^2\left(6Be-19Af\right)-6c^3f^2\left(7Ce-Bf\right)-c^2df\left(238Ce^2-19f\left(Be-Af\right)\right)-cd^2e\left(42Ce^2-f\left(19Be+20Af\right)\right)\right)+a^3b^2df\left(C\left(103d^2e^2+344cdef+103c^2f^2\right)+df\left(6Adf-19B\left(de+cf\right)\right)\right)-3a^2b^3\left(C\left(5d^3e^3+94cd^2e^2f+94c^2def^2+5c^3f^3\right)+df\left(3Adf\left(de+cf\right)-B\left(3d^2e^2+16cdef+3c^2f^2\right)\right)\right)\right)\sqrt{c+dx}\sqrt{e+fx}+\left(2\left(6a^3Cdf+ab^2\left(14cCe+3Bde+3Bcf-8Adf\right)-b^3\left(7Bce-4A\left(de+cf\right)\right)+a^2b\left(Bdf-10C\left(de+cf\right)\right)\right)\sqrt{c+dx}\left(e+fx\right)^{3/2}\right)\Big/\left(35b^2\left(bc-ad\right)\left(be-af\right)^2\left(a+bx\right)^{5/2}\right)-\frac{2\left(Ab^2-a\left(bB-aC\right)\right)\left(c+dx\right)^{3/2}\left(e+fx\right)^{3/2}}{7b\left(bc-ad\right)\left(be-af\right)\left(a+bx\right)^{7/2}}+\frac{1}{105b^4\left(-bc+ad\right)^{5/2}\left(be-af\right)^3\sqrt{c+dx}\sqrt{\frac{b\left(e+fx\right)}{be-af}}}$$

$$2\sqrt{d}\left(48a^5Cd^3f^3+8a^4bd^2f^2\left(Bdf-16C\left(de+cf\right)\right)-b^5\left(8Ad^3e^3-cd^2e^2\left(14Be+5Af\right)+c^2de\left(35Ce^2+14Bef-5Af^2\right)+c^3f\left(35Ce^2-14Bef+8Af^2\right)\right)-ab^4\left(d^3e^2\left(6Be-19Af\right)-6c^3f^2\left(7Ce-Bf\right)-c^2df\left(238Ce^2-19f\left(Be-Af\right)\right)-cd^2e\left(42Ce^2-f\left(19Be+20Af\right)\right)\right)+a^3b^2df\left(C\left(103d^2e^2+344cdef+103c^2f^2\right)+df\left(6Adf-19B\left(de+cf\right)\right)\right)-3a^2b^3\left(C\left(5d^3e^3+94cd^2e^2f+94c^2def^2+5c^3f^3\right)+df\left(3Adf\left(de+cf\right)-B\left(3d^2e^2+16cdef+3c^2f^2\right)\right)\right)\right)\sqrt{\frac{b\left(c+dx\right)}{bc-ad}}\sqrt{e+fx}\,\text{EllipticE}\left[\text{ArcSin}\left[\frac{\sqrt{d}\sqrt{a+bx}}{\sqrt{-bc+ad}}\right],\frac{\left(bc-ad\right)f}{d\left(be-af\right)}\right]+\frac{1}{105b^4\left(-bc+ad\right)^{5/2}\left(be-af\right)^2\sqrt{c+dx}\sqrt{e+fx}}$$

$$2\sqrt{d}\left(de-cf\right)\left(24a^4Cd^2f^2-a^3bdf\left(43Cde+61cCf-4Bdf\right)+b^4\left(8Ad^2e^2-cde\left(14Be+Af\right)+c^2\left(35Ce^2+7Bef-4Af^2\right)\right)+3ab^3\left(d^2e\left(2Be-5Af\right)-c^2f\left(28Ce+Bf\right)-cd\left(14Ce^2-5Bef-3Af^2\right)\right)-3a^2b^2\left(df\left(2Bde+3Bcf-Adf\right)-C\left(5d^2e^2+37cdef+15c^2f^2\right)\right)\right)\sqrt{\frac{b\left(c+dx\right)}{bc-ad}}\sqrt{\frac{b\left(e+fx\right)}{be-af}}\,\text{EllipticF}\left[\text{ArcSin}\left[\frac{\sqrt{d}\sqrt{a+bx}}{\sqrt{-bc+ad}}\right],\frac{\left(bc-ad\right)f}{d\left(be-af\right)}\right]$$

Result (type 4, 15719 leaves):

$$\sqrt{a+b\,x}\ \sqrt{c+d\,x}\ \sqrt{e+f\,x}$$

$$\left(-\frac{2\left(A\,b^2-a\,b\,B+a^2\,C\right)}{7\,b^3\left(a+b\,x\right)^4}-\left(2\left(7\,b^3\,B\,c\,e-14\,a\,b^2\,c\,C\,e+A\,b^3\,d\,e-8\,a\,b^2\,B\,d\,e+15\,a^2\,b\,C\,d\,e+A\,b^3\,c\,f-8\,a\,b^2\,B\,c\,f+15\,a^2\,b\,c\,C\,f-2\,a\,A\,b^2\,d\,f+9\,a^2\,b\,B\,d\,f-16\,a^3\,C\,d\,f\right)\right)\Big/\left(35\,b^3\left(b\,c-a\,d\right)\left(b\,e-a\,f\right)\left(a+b\,x\right)^3\right)-\frac{1}{105\,b^3\left(b\,c-a\,d\right)^2\left(b\,e-a\,f\right)^2\left(a+b\,x\right)^2}\right.$$

$$2\left(35\,b^4\,c^2\,C\,e^2+7\,b^4\,B\,c\,d\,e^2-84\,a\,b^3\,c\,C\,d\,e^2-4\,A\,b^4\,d^2\,e^2-3\,a\,b^3\,B\,d^2\,e^2+45\,a^2\,b^2\,C\,d^2\,e^2+7\,b^4\,B\,c^2\,e\,f-84\,a\,b^3\,c^2\,C\,e\,f+2\,A\,b^4\,c\,d\,e\,f-30\,a\,b^3\,B\,c\,d\,e\,f+198\,a^2\,b^2\,c\,C\,d\,e\,f+6\,a\,A\,b^3\,d^2\,e\,f+15\,a^2\,b^2\,B\,d^2\,e\,f-106\,a^3\,b\,C\,d^2\,e\,f-4\,A\,b^4\,c^2\,f^2-3\,a\,b^3\,B\,c^2\,f^2+45\,a^2\,b^2\,c^2\,C\,f^2+6\,a\,A\,b^3\,c\,d\,f^2+15\,a^2\,b^2\,B\,c\,d\,f^2-106\,a^3\,b\,c\,C\,d\,f^2-6\,a^2\,A\,b^2\,d^2\,f^2-8\,a^3\,b\,B\,d^2\,f^2+57\,a^4\,C\,d^2\,f^2\right)-$$

$$\frac{1}{105\,b^3\left(b\,c-a\,d\right)^3\left(b\,e-a\,f\right)^3\left(a+b\,x\right)}2\left(35\,b^5\,c^2\,C\,d\,e^3-14\,b^5\,B\,c\,d^2\,e^3-42\,a\,b^4\,c\,C\,d^2\,e^3+8\,A\,b^5\,d^3\,e^3+6\,a\,b^4\,B\,d^3\,e^3+15\,a^2\,b^3\,C\,d^3\,e^3+35\,b^5\,c^3\,C\,e^2\,f+14\,b^5\,B\,c^2\,d\,e^2\,f-238\,a\,b^4\,c^2\,C\,d\,e^2\,f-5\,A\,b^5\,c\,d^2\,e^2\,f+19\,a\,b^4\,B\,c\,d^2\,e^2\,f+282\,a^2\,b^3\,c\,C\,d^2\,e^2\,f-19\,a\,A\,b^4\,d^3\,e^2\,f-9\,a^2\,b^3\,B\,d^3\,e^2\,f-103\,a^3\,b^2\,C\,d^3\,e^2\,f-14\,b^5\,B\,c^3\,e\,f^2-42\,a\,b^4\,c^3\,C\,e\,f^2-5\,A\,b^5\,c^2\,d\,e\,f^2+19\,a\,b^4\,B\,c^2\,d\,e\,f^2+282\,a^2\,b^3\,c^2\,C\,d\,e\,f^2+20\,a\,A\,b^4\,c\,d^2\,e\,f^2-48\,a^2\,b^3\,B\,c\,d^2\,e\,f^2-344\,a^3\,b^2\,c\,C\,d^2\,e\,f^2+9\,a^2\,A\,b^3\,d^3\,e\,f^2+19\,a^3\,b^2\,B\,d^3\,e\,f^2+128\,a^4\,b\,C\,d^3\,e\,f^2+8\,A\,b^5\,c^3\,f^3+6\,a\,b^4\,B\,c^3\,f^3+15\,a^2\,b^3\,c^3\,C\,f^3-19\,a\,A\,b^4\,c^2\,d\,f^3-9\,a^2\,b^3\,B\,c^2\,d\,f^3-103\,a^3\,b^2\,c^2\,C\,d\,f^3+9\,a^2\,A\,b^3\,c\,d^2\,f^3+19\,a^3\,b^2\,B\,c\,d^2\,f^3+128\,a^4\,b\,c\,C\,d^2\,f^3-6\,a^3\,A\,b^2\,d^3\,f^3-8\,a^4\,b\,B\,d^3\,f^3-48\,a^5\,C\,d^3\,f^3\right)\Bigg)-$$

$$\frac{1}{105\,b^5\left(b\,c-a\,d\right)^3\left(b\,e-a\,f\right)^3}2\,d\,f\left(\frac{1}{d\,f\sqrt{c+\frac{\left(a+b\,x\right)\left(d-\frac{a\,d}{a+b\,x}\right)}{b}}\sqrt{e+\frac{\left(a+b\,x\right)\left(f-\frac{a\,f}{a+b\,x}\right)}{b}}}\right.$$

$$\left(-35\,b^5\,c^2\,C\,d\,e^3+14\,b^5\,B\,c\,d^2\,e^3+42\,a\,b^4\,c\,C\,d^2\,e^3-8\,A\,b^5\,d^3\,e^3-6\,a\,b^4\,B\,d^3\,e^3-15\,a^2\,b^3\,C\,d^3\,e^3-35\,b^5\,c^3\,C\,e^2\,f+14\,b^5\,B\,c^2\,d\,e^2\,f+238\,a\,b^4\,c^2\,C\,d\,e^2\,f+5\,A\,b^5\,c\,d^2\,e^2\,f-19\,a\,b^4\,B\,c\,d^2\,e^2\,f-282\,a^2\,b^3\,c\,C\,d^2\,e^2\,f+19\,a\,A\,b^4\,d^3\,e^2\,f+9\,a^2\,b^3\,B\,d^3\,e^2\,f+103\,a^3\,b^2\,C\,d^3\,e^2\,f+14\,b^5\,B\,c^3\,e\,f^2+42\,a\,b^4\,c^3\,C\,e\,f^2+5\,A\,b^5\,c^2\,d\,e\,f^2-19\,a\,b^4\,B\,c^2\,d\,e\,f^2-282\,a^2\,b^3\,c^2\,C\,d\,e\,f^2-20\,a\,A\,b^4\,c\,d^2\,e\,f^2+48\,a^2\,b^3\,B\,c\,d^2\,e\,f^2+344\,a^3\,b^2\,c\,C\,d^2\,e\,f^2-9\,a^2\,A\,b^3\,d^3\,e\,f^2-19\,a^3\,b^2\,B\,d^3\,e\,f^2-128\,a^4\,b\,C\,d^3\,e\,f^2-8\,A\,b^5\,c^3\,f^3-6\,a\,b^4\,B\,c^3\,f^3-15\,a^2\,b^3\,c^3\,C\,f^3+19\,a\,A\,b^4\,c^2\,d\,f^3+9\,a^2\,b^3\,B\,c^2\,d\,f^3+103\,a^3\,b^2\,c^2\,C\,d\,f^3-9\,a^2\,A\,b^3\,c\,d^2\,f^3-19\,a^3\,b^2\,B\,c\,d^2\,f^3-128\,a^4\,b\,c\,C\,d^2\,f^3+6\,a^3\,A\,b^2\,d^3\,f^3+8\,a^4\,b\,B\,d^3\,f^3+48\,a^5\,C\,d^3\,f^3\right)$$

$$\left(a+b\,x\right)^{3/2}\left(d+\frac{b\,c}{a+b\,x}-\frac{a\,d}{a+b\,x}\right)\left(f+\frac{b\,e}{a+b\,x}-\frac{a\,f}{a+b\,x}\right)+$$

$$\frac{1}{d\,f\sqrt{c+\frac{\left(a+b\,x\right)\left(d-\frac{a\,d}{a+b\,x}\right)}{b}}\sqrt{e+\frac{\left(a+b\,x\right)\left(f-\frac{a\,f}{a+b\,x}\right)}{b}}}\left(-b\,c+a\,d\right)\left(-b\,e+a\,f\right)$$

$$\left(a+b\,x\right)\sqrt{\left(d+\frac{b\,c}{a+b\,x}-\frac{a\,d}{a+b\,x}\right)\left(f+\frac{b\,e}{a+b\,x}-\frac{a\,f}{a+b\,x}\right)}$$

$$\left(\left(35\,i\,b^5\,c^2\,C\,d\,e^3\,f\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-\left(14\,i\,b^5\,B\,c\right.$$

$$d^2\,e^3\,f\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-\left(42\,i\,a\,b^4\,c\,C\right.$$

$$d^2\,e^3\,f\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(8\,i\,A\,b^5\,d^3\,e^3\,f\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(6\,i\,a\,b^4\,B\,d^3\,e^3\,f\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+\left(15\,i\,a^2\,b^3\,C\right.$$

$$d^3\,e^3\,f\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(35\,i\,b^5\,c^3\,C\,e^2\,f^2\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+\left(14\,i\,b^5\,B\,c^2\right.$$

$$d\,e^2\,f^2\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-\left(238\,i\,a\,b^4\,c^2\right.$$

$$C\,d\,e^2\,f^2\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\left(-b\,e+a\,f\right)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-\left(5\,i\,A\,b^5\,c\,d^2\right.$$

$$e^2\,f^2\sqrt{1-\frac{-b\,c+a\,d}{d\,\left(a+b\,x\right)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,\left(a+b\,x\right)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.$$

$$\left.\left.\frac{d\,\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\right]\right)\Bigg)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\left(-b\,e+a\,f\right)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+\left(19\,i\,a\,b^4\,B\,c\right.$$

$$d^2\,e^2\,f^2\sqrt{1-\frac{-b\,c+a\,d}{d\,\left(a+b\,x\right)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,\left(a+b\,x\right)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.$$

$$\left.\left.\frac{d\,\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\right]\right)\Bigg)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\left(-b\,e+a\,f\right)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+\left(282\,i\,a^2\,b^3\,c\right.$$

$$C\,d^2\,e^2\,f^2\sqrt{1-\frac{-b\,c+a\,d}{d\,\left(a+b\,x\right)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,\left(a+b\,x\right)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.$$

$$\frac{d\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\Big]-\text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\Big]\Bigg)\Bigg)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ \left(-b\,e+a\,f\right)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-\Bigg(19\,i\,a\,A\,b^4$$

$$d^3\,e^2\,f^2\sqrt{1-\frac{-b\,c+a\,d}{d\left(a+b\,x\right)}}\ \sqrt{1-\frac{-b\,e+a\,f}{f\left(a+b\,x\right)}}\ \Bigg(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],$$

$$\frac{d\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\Big]-\text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\Big]\Bigg)\Bigg)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ \left(-b\,e+a\,f\right)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-\Bigg(9\,i\,a^2\,b^3\,B$$

$$d^3\,e^2\,f^2\sqrt{1-\frac{-b\,c+a\,d}{d\left(a+b\,x\right)}}\ \sqrt{1-\frac{-b\,e+a\,f}{f\left(a+b\,x\right)}}\ \Bigg(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],$$

$$\frac{d\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\Big]-\text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\Big]\Bigg)\Bigg)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ \left(-b\,e+a\,f\right)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\Bigg(103\,i\,a^3\,b^2\,C\,d^3\,e^2\,f^2\sqrt{1-\frac{-b\,c+a\,d}{d\left(a+b\,x\right)}}\ \sqrt{1-\frac{-b\,e+a\,f}{f\left(a+b\,x\right)}}$$

$$\left(\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\right.\right.$$

$$\left.\left.\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\ \sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(14\,i\,b^5\,B\,c^3\,e\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\ \sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\ \sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(42\,i\,a\,b^4\,c^3\,C\,e\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\ \sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\right.$$

$$\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\right.$$

$$\left.\left.\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\left(-b\,e+a\,f\right)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(5\,i\,A\,b^5\,c^2\,d\,e\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\,\left(a+b\,x\right)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,\left(a+b\,x\right)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\,\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\left(-b\,e+a\,f\right)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(19\,i\,a\,b^4\,B\,c^2\,d\,e\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\,\left(a+b\,x\right)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,\left(a+b\,x\right)}}\right.$$

$$\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\,\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\right]-\right.$$

$$\left.\left.\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\,\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\left(-b\,e+a\,f\right)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(282\,i\,a^2\,b^3\,c^2\,C\,d\,e\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\,\left(a+b\,x\right)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,\left(a+b\,x\right)}}\right.$$

$$\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\right.$$

$$\left.\left.\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\ \sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(20\,i\,a\,A\,b^4\,c\,d^2\,e\,f^3\ \sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\ \sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\right.$$

$$\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\right.$$

$$\left.\left.\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\ \sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(48\,i\,a^2\,b^3\,B\,c\,d^2\,e\,f^3\ \sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\ \sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\right.$$

$$\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\right.$$

$$\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\Bigg)\Bigg)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(344\,i\,a^3\,b^2\,c\,C\,d^2\,e\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\ \sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\right.$$

$$\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\right.$$

$$\left.\left.\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(9\,i\,a^2\,A\,b^3\,d^3\,e\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\ \sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\right.$$

$$\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\right.$$

$$\left.\left.\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\left(-b\,e+a\,f\right)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(19\,i\,a^3\,b^2\,B\,d^3\,e\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\,\left(a+b\,x\right)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,\left(a+b\,x\right)}}\right.$$

$$\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\,\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\right]-\right.$$

$$\left.\left.\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\,\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\left(-b\,e+a\,f\right)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(128\,i\,a^4\,b\,C\,d^3\,e\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\,\left(a+b\,x\right)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,\left(a+b\,x\right)}}\right.$$

$$\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\,\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\right]-\right.$$

$$\left.\left.\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\,\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\left(-b\,e+a\,f\right)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(8\,i\,A\,b^5\,c^3\,f^4\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(6\,i\,a\,b^4\,B\,c^3\,f^4\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(15\,i\,a^2\,b^3\,c^3\,C\,f^4\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(19\,i\,a\,A\,b^4\,c^2\,d\,f^4\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\right.$$

$$\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\right.$$

$$\left.\left.\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(9\,i\,a^2\,b^3\,B\,c^2\,d\,f^4\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\right.$$

$$\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\right.$$

$$\left.\left.\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(103\,i\,a^3\,b^2\,c^2\,C\,d\,f^4\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\right.$$

$$\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\right.$$

$$\left.\left.\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\ \sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(9\,i\,a^2\,A\,b^3\,c\,d^2\,f^4\ \sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\ \sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\right.$$

$$\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\right.$$

$$\left.\left.\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\ \sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(19\,i\,a^3\,b^2\,B\,c\,d^2\,f^4\ \sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\ \sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\right.$$

$$\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\right.$$

$$\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\Bigg)\Bigg)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\Bigg(128\,i\,a^4\,b\,c\,C\,d^2\,f^4\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\ \sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}$$

$$\Bigg(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-$$

$$\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\Bigg)\Bigg)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\Bigg(6\,i\,a^3\,A\,b^2\,d^3\,f^4\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\ \sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\ \Bigg(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],$$

$$\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\Bigg)\Bigg)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(8\,i\,a^4\,b\,B\,d^3\,f^4\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(48\,i\,a^5\,C\,d^3\,f^4\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(70\,i\,b^4\,c^2\,C\,d\,e^2\,f\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\,\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.$$

$$\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Big/\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(7\,i\,b^4\,B\,c\,d^2\,e^2\,f\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\,\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.$$

$$\frac{d\left(-b e+a f\right)}{\left(-b c+a d\right) f}\Bigg]\Bigg/\left(\sqrt{-\frac{-b c+a d}{d}}\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)+$$

$$\left(126\,i\,a\,b^3\,c\,C\,d^2\,e^2\,f\,\sqrt{1-\frac{-b c+a d}{d\left(a+b x\right)}}\ \sqrt{1-\frac{-b e+a f}{f\left(a+b x\right)}}\right.$$

$$\left.\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\ \frac{d\left(-b e+a f\right)}{\left(-b c+a d\right) f}\right]\right)\Bigg/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)-\left(4\,i\,A\,b^4\,d^3\,e^2\,f\,\sqrt{1-\frac{-b c+a d}{d\left(a+b x\right)}}\right.$$

$$\left.\sqrt{1-\frac{-b e+a f}{f\left(a+b x\right)}}\ \text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\ \frac{d\left(-b e+a f\right)}{\left(-b c+a d\right) f}\right]\right)\Bigg/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)-\left(3\,i\,a\,b^3\,B\,d^3\,e^2\,f\,\sqrt{1-\frac{-b c+a d}{d\left(a+b x\right)}}\right.$$

$$\left.\sqrt{1-\frac{-b e+a f}{f\left(a+b x\right)}}\ \text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\ \frac{d\left(-b e+a f\right)}{\left(-b c+a d\right) f}\right]\right)\Bigg/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)-\left(60\,i\,a^2\,b^2\,C\,d^3\,e^2\,f\,\sqrt{1-\frac{-b c+a d}{d\left(a+b x\right)}}\right.$$

$$\sqrt{1-\frac{-b e+a f}{f (a+b x)}}\ \text{EllipticF}\left[i\ \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\ \frac{d (-b e+a f)}{(-b c+a d) f}\right]\Bigg) \Bigg/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)+$$

$$\Bigg(7 i b^4 B c^2 d e f^2 \sqrt{1-\frac{-b c+a d}{d (a+b x)}}\ \sqrt{1-\frac{-b e+a f}{f (a+b x)}}\ \text{EllipticF}\left[i\ \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],$$

$$\frac{d (-b e+a f)}{(-b c+a d) f}\right] \Bigg/ \left(\sqrt{-\frac{-b c+a d}{d}}\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)+$$

$$\Bigg(126 i a b^3 c^2 C d e f^2 \sqrt{1-\frac{-b c+a d}{d (a+b x)}}\ \sqrt{1-\frac{-b e+a f}{f (a+b x)}}$$

$$\text{EllipticF}\left[i\ \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\ \frac{d (-b e+a f)}{(-b c+a d) f}\right] \Bigg) \Bigg/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)+\Bigg(2 i A b^4 c d^2 e f^2 \sqrt{1-\frac{-b c+a d}{d (a+b x)}}$$

$$\sqrt{1-\frac{-b e+a f}{f (a+b x)}}\ \text{EllipticF}\left[i\ \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\ \frac{d (-b e+a f)}{(-b c+a d) f}\right] \Bigg) \Bigg/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)-\Bigg(30 i a b^3 B c d^2 e f^2 \sqrt{1-\frac{-b c+a d}{d (a+b x)}}$$

$$\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\ \text{EllipticF}\left[i\ \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ \sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(222\,i\,a^2\,b^2\,c\,C\,d^2\,e\,f^2\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\ \sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\right.$$

$$\left.\text{EllipticF}\left[i\ \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ \sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+\left(6\,i\,a\,A\,b^3\,d^3\,e\,f^2\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\right.$$

$$\left.\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\ \text{EllipticF}\left[i\ \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ \sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+\left(15\,i\,a^2\,b^2\,B\,d^3\,e\,f^2\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\right.$$

$$\left.\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\ \text{EllipticF}\left[i\ \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ \sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(104\,i\,a^3\,b\,C\,d^3\,e\,f^2\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\right.$$

$$\left.\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-\left(4\,i\,A\,b^4\,c^2\,d\,f^3\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\right.$$

$$\left.\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\,\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-\left(3\,i\,a\,b^3\,B\,c^2\,d\,f^3\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\right.$$

$$\left.\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\,\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-\left(60\,i\,a^2\,b^2\,c^2\,C\,d\,f^3\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\right.$$

$$\left.\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\,\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)+\left(6 i a A b^3 c d^2 f^3 \sqrt{1-\frac{-b c+a d}{d (a+b x)}}\right.$$

$$\left.\sqrt{1-\frac{-b e+a f}{f (a+b x)}}\ \text{EllipticF}\left[i \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right], \frac{d (-b e+a f)}{(-b c+a d) f}\right]\right) /$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)+\left(15 i a^2 b^2 B c d^2 f^3 \sqrt{1-\frac{-b c+a d}{d (a+b x)}}\right.$$

$$\left.\sqrt{1-\frac{-b e+a f}{f (a+b x)}}\ \text{EllipticF}\left[i \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right], \frac{d (-b e+a f)}{(-b c+a d) f}\right]\right) /$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)+$$

$$\left(104 i a^3 b c C d^2 f^3 \sqrt{1-\frac{-b c+a d}{d (a+b x)}}\ \sqrt{1-\frac{-b e+a f}{f (a+b x)}}\right.$$

$$\left.\text{EllipticF}\left[i \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right], \frac{d (-b e+a f)}{(-b c+a d) f}\right]\right) /$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)-$$

$$\left(6 i a^2 A b^2 d^3 f^3 \sqrt{1-\frac{-b c+a d}{d (a+b x)}}\ \sqrt{1-\frac{-b e+a f}{f (a+b x)}}\ \text{EllipticF}\left[i \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\right.\right.$$

$$\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]\Big/\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(8\,i\,a^3\,b\,B\,d^3\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\;\text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\right.$$

$$\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]\Big/\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(48\,i\,a^4\,C\,d^3\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\;\text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\right.$$

$$\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]\Big/\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)\right)\right)$$

Problem 67: Result unnecessarily involves complex numbers and more than twice size of optimal antiderivative.

$$\int\frac{(a+b\,x)^{3/2}\,\sqrt{c+d\,x}\,\left(A+B\,x+C\,x^2\right)}{\sqrt{e+f\,x}}\,dx$$

Optimal (type 4, 1235 leaves, 10 steps):

$$-\frac{1}{945\,b^2\,d^3\,f^4}2\left(5\,b\,d\,f\left(7\,a\,d\,f\left(5\,b\,c\,C\,e+3\,a\,C\,d\,e+a\,c\,C\,f-9\,A\,b\,d\,f\right)-\left(3\,b\,c\,e+3\,a\,d\,e+a\,c\,f\right)\left(4\,a\,C\,d\,f+b\left(8\,C\,d\,e+6\,c\,C\,f-9\,B\,d\,f\right)\right)\right)+2\left(\frac{a\,d\,f}{2}-b\left(2\,d\,e+c\,f\right)\right)\left(7\,b\,d\,f\left(5\,b\,c\,C\,e+3\,a\,C\,d\,e+a\,c\,C\,f-9\,A\,b\,d\,f\right)-\left(6\,b\,d\,e+4\,b\,c\,f-3\,a\,d\,f\right)\left(4\,a\,C\,d\,f+b\left(8\,C\,d\,e+6\,c\,C\,f-9\,B\,d\,f\right)\right)\right)\right)\sqrt{a+b\,x}\,\sqrt{c+d\,x}\,\sqrt{e+f\,x}-\frac{1}{315\,b\,d^3\,f^3}2\left(7\,b\,d\,f\left(5\,b\,c\,C\,e+3\,a\,C\,d\,e+a\,c\,C\,f-9\,A\,b\,d\,f\right)-\left(6\,b\,d\,e+4\,b\,c\,f-3\,a\,d\,f\right)\left(4\,a\,C\,d\,f+b\left(8\,C\,d\,e+6\,c\,C\,f-9\,B\,d\,f\right)\right)\right)\sqrt{a+b\,x}\,(c+d\,x)^{3/2}\sqrt{e+f\,x}-\frac{1}{63\,b\,d^2\,f^2}2\left(4\,a\,C\,d\,f+b\left(8\,C\,d\,e+6\,c\,C\,f-9\,B\,d\,f\right)\right)(a+b\,x)^{3/2}(c+d\,x)^{3/2}\sqrt{e+f\,x}+\frac{2\,C\,(a+b\,x)^{5/2}\,(c+d\,x)^{3/2}\sqrt{e+f\,x}}{9\,b\,d\,f}+\frac{1}{315\,b^3\,d^{7/2}\,f^5\,\sqrt{c+d\,x}\,\sqrt{\frac{b\,(e+f\,x)}{b\,e-a\,f}}}2\sqrt{-b\,c+a\,d}\left(8\,a^4\,C\,d^4\,f^4+a^3\,b\,d^3\,f^3\left(11\,C\,d\,e-7\,c\,C\,f-18\,B\,d\,f\right)-3\,a^2\,b^2\,d^2\,f^2\left(3\,d\,f\left(4\,B\,d\,e-3\,B\,c\,f-7\,A\,d\,f\right)-C\left(9\,d^2\,e^2-5\,c\,d\,e\,f-3\,c^2\,f^2\right)\right)-a\,b^3\,d\,f\left(2\,C\left(92\,d^3\,e^3-33\,c\,d^2\,e^2\,f-18\,c^2\,d\,e\,f^2-16\,c^3\,f^3\right)+3\,d\,f\left(7\,A\,d\,f\left(13\,d\,e-7\,c\,f\right)-B\left(72\,d^2\,e^2-29\,c\,d\,e\,f-19\,c^2\,f^2\right)\right)\right)+b^4\left(C\left(128\,d^4\,e^4-40\,c\,d^3\,e^3\,f-21\,c^2\,d^2\,e^2\,f^2-16\,c^3\,d\,e\,f^3-16\,c^4\,f^4\right)+3\,d\,f\left(7\,A\,d\,f\left(8\,d^2\,e^2-3\,c\,d\,e\,f-2\,c^2\,f^2\right)-B\left(48\,d^3\,e^3-16\,c\,d^2\,e^2\,f-9\,c^2\,d\,e\,f^2-8\,c^3\,f^3\right)\right)\right)\right)\sqrt{\frac{b\,(c+d\,x)}{b\,c-a\,d}}\,\sqrt{e+f\,x}\,\text{EllipticE}\left[\text{ArcSin}\left[\frac{\sqrt{d}\,\sqrt{a+b\,x}}{\sqrt{-b\,c+a\,d}}\right],\frac{(b\,c-a\,d)\,f}{d\,(b\,e-a\,f)}\right]+\frac{1}{315\,b^3\,d^{7/2}\,f^5\,\sqrt{c+d\,x}\,\sqrt{e+f\,x}}2\sqrt{-b\,c+a\,d}\,(b\,e-a\,f)\,(d\,e-c\,f)\left(4\,a^3\,C\,d^3\,f^3+3\,a^2\,b\,d^2\,f^2\left(3\,C\,d\,e-c\,C\,f-3\,B\,d\,f\right)-3\,a\,b^2\,d\,f\left(3\,d\,f\left(16\,B\,d\,e+3\,B\,c\,f-21\,A\,d\,f\right)-5\,C\left(8\,d^2\,e^2+2\,c\,d\,e\,f+c^2\,f^2\right)\right)-b^3\left(C\left(128\,d^3\,e^3+24\,c\,d^2\,e^2\,f+15\,c^2\,d\,e\,f^2+8\,c^3\,f^3\right)+3\,d\,f\left(7\,A\,d\,f\left(8\,d\,e+c\,f\right)-4\,B\left(12\,d^2\,e^2+2\,c\,d\,e\,f+c^2\,f^2\right)\right)\right)\right)\sqrt{\frac{b\,(c+d\,x)}{b\,c-a\,d}}\,\sqrt{\frac{b\,(e+f\,x)}{b\,e-a\,f}}\,\text{EllipticF}\left[\text{ArcSin}\left[\frac{\sqrt{d}\,\sqrt{a+b\,x}}{\sqrt{-b\,c+a\,d}}\right],\frac{(b\,c-a\,d)\,f}{d\,(b\,e-a\,f)}\right]$$

Result (type 4, 12 483 leaves):

$$\sqrt{a+b\,x}\,\sqrt{c+d\,x}\,\sqrt{e+f\,x}\left(-\frac{1}{315\,b^2\,d^3\,f^4}2\left(64\,b^3\,C\,d^3\,e^3-12\,b^3\,c\,C\,d^2\,e^2\,f-72\,b^3\,B\,d^3\,e^2\,f-84\,a\,b^2\,C\,d^3\,e^2\,f-9\,b^3\,c^2\,C\,d\,e\,f^2+15\,b^3\,B\,c\,d^2\,e\,f^2+19\,a\,b^2\,c\,C\,d^2\,e\,f^2+84\,A\,b^3\,d^3\,e\,f^2+99\,a\,b^2\,B\,d^3\,e\,f^2+\right.$$

$$6\,a^2\,b\,C\,d^3\,e\,f^2 - 8\,b^3\,c^3\,C\,f^3 + 12\,b^3\,B\,c^2\,d\,f^3 + 15\,a\,b^2\,c^2\,C\,d\,f^3 - 21\,A\,b^3\,c\,d^2\,f^3 - 27\,a\,b^2\,B\,c\,d^2\,f^3 - 3\,a^2\,b\,c\,C\,d^2\,f^3 - 126\,a\,A\,b^2\,d^3\,f^3 - 9\,a^2\,b\,B\,d^3\,f^3 + 4\,a^3\,C\,d^3\,f^3\Big) +$$

$$\frac{1}{315\,b\,d^2\,f^3}2\,\Big(48\,b^2\,C\,d^2\,e^2 - 7\,b^2\,c\,C\,d\,e\,f - 54\,b^2\,B\,d^2\,e\,f - 61\,a\,b\,C\,d^2\,e\,f - 6\,b^2\,c^2\,C\,f^2 + 9\,b^2\,B\,c\,d\,f^2 + 11\,a\,b\,c\,C\,d\,f^2 + 63\,A\,b^2\,d^2\,f^2 + 72\,a\,b\,B\,d^2\,f^2 + 3\,a^2\,C\,d^2\,f^2\Big)\,x + \frac{2\,\left(-8\,b\,C\,d\,e + b\,c\,C\,f + 9\,b\,B\,d\,f + 10\,a\,C\,d\,f\right)\,x^2}{63\,d\,f^2} + \frac{2\,b\,C\,x^3}{9\,f}\Bigg) +$$

$$\frac{1}{315\,b^4\,d^3\,f^4}2\Bigg(\frac{1}{d\,f\,\sqrt{c + \frac{(a+b\,x)\,\left(d - \frac{a\,d}{a+b\,x}\right)}{b}}\,\sqrt{e + \frac{(a+b\,x)\,\left(f - \frac{a\,f}{a+b\,x}\right)}{b}}}$$

$$\Big(128\,b^4\,C\,d^4\,e^4 - 40\,b^4\,c\,C\,d^3\,e^3\,f - 144\,b^4\,B\,d^4\,e^3\,f - 184\,a\,b^3\,C\,d^4\,e^3\,f - 21\,b^4\,c^2\,C\,d^2\,e^2\,f^2 + 48\,b^4\,B\,c\,d^3\,e^2\,f^2 + 66\,a\,b^3\,c\,C\,d^3\,e^2\,f^2 + 168\,A\,b^4\,d^4\,e^2\,f^2 + 216\,a\,b^3\,B\,d^4\,e^2\,f^2 + 27\,a^2\,b^2\,C\,d^4\,e^2\,f^2 - 16\,b^4\,c^3\,C\,d\,e\,f^3 + 27\,b^4\,B\,c^2\,d^2\,e\,f^3 + 36\,a\,b^3\,c^2\,C\,d^2\,e\,f^3 - 63\,A\,b^4\,c\,d^3\,e\,f^3 - 87\,a\,b^3\,B\,c\,d^3\,e\,f^3 - 15\,a^2\,b^2\,c\,C\,d^3\,e\,f^3 - 273\,a\,A\,b^3\,d^4\,e\,f^3 - 36\,a^2\,b^2\,B\,d^4\,e\,f^3 + 11\,a^3\,b\,C\,d^4\,e\,f^3 - 16\,b^4\,c^4\,C\,f^4 + 24\,b^4\,B\,c^3\,d\,f^4 + 32\,a\,b^3\,c^3\,C\,d\,f^4 - 42\,A\,b^4\,c^2\,d^2\,f^4 - 57\,a\,b^3\,B\,c^2\,d^2\,f^4 - 9\,a^2\,b^2\,c^2\,C\,d^2\,f^4 + 147\,a\,A\,b^3\,c\,d^3\,f^4 + 27\,a^2\,b^2\,B\,c\,d^3\,f^4 - 7\,a^3\,b\,c\,C\,d^3\,f^4 + 63\,a^2\,A\,b^2\,d^4\,f^4 - 18\,a^3\,b\,B\,d^4\,f^4 + 8\,a^4\,C\,d^4\,f^4\Big)\,(a+b\,x)^{3/2}\,\left(d + \frac{b\,c}{a+b\,x} - \frac{a\,d}{a+b\,x}\right)\,\left(f + \frac{b\,e}{a+b\,x} - \frac{a\,f}{a+b\,x}\right) -$$

$$\frac{1}{d\,f\,\sqrt{c + \frac{(a+b\,x)\,\left(d - \frac{a\,d}{a+b\,x}\right)}{b}}\,\sqrt{e + \frac{(a+b\,x)\,\left(f - \frac{a\,f}{a+b\,x}\right)}{b}}}\,(-b\,c + a\,d)\,(-b\,e + a\,f)\,(a+b\,x)$$

$$\sqrt{\left(d + \frac{b\,c}{a+b\,x} - \frac{a\,d}{a+b\,x}\right)\,\left(f + \frac{b\,e}{a+b\,x} - \frac{a\,f}{a+b\,x}\right)}$$

$$\Bigg(\Bigg(128\,i\,b^4\,C\,d^4\,e^4\,f\,\sqrt{1 - \frac{-b\,c + a\,d}{d\,(a+b\,x)}}\,\sqrt{1 - \frac{-b\,e + a\,f}{f\,(a+b\,x)}}\,\Bigg(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big] - \text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]\Bigg)\Bigg)\Bigg/$$

$$\Bigg(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d + \frac{b\,c-a\,d}{a+b\,x}\right)\,\left(f + \frac{b\,e-a\,f}{a+b\,x}\right)}\Bigg) - \Bigg(40\,i\,b^4\,c\,C$$

$$d^3 e^3 f^2 \sqrt{1-\frac{-b c+a d}{d (a+b x)}} \sqrt{1-\frac{-b e+a f}{f (a+b x)}} \left(\text{EllipticE}\left[i \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}} \right], \frac{d (-b e+a f)}{(-b c+a d) f} \right] - \text{EllipticF}\left[i \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}} \right], \frac{d (-b e+a f)}{(-b c+a d) f} \right] \right) \Big/ \left(\sqrt{-\frac{-b c+a d}{d}} (-b e+a f) \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)} \right) - \left(144 i b^4 B \right.$$

$$\left. d^4 e^3 f^2 \sqrt{1-\frac{-b c+a d}{d (a+b x)}} \sqrt{1-\frac{-b e+a f}{f (a+b x)}} \left(\text{EllipticE}\left[i \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}} \right], \frac{d (-b e+a f)}{(-b c+a d) f} \right] - \text{EllipticF}\left[i \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}} \right], \frac{d (-b e+a f)}{(-b c+a d) f} \right] \right) \Big/ \left(\sqrt{-\frac{-b c+a d}{d}} (-b e+a f) \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)} \right) - \left(184 i a b^3 C \right.$$

$$\left. d^4 e^3 f^2 \sqrt{1-\frac{-b c+a d}{d (a+b x)}} \sqrt{1-\frac{-b e+a f}{f (a+b x)}} \left(\text{EllipticE}\left[i \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}} \right], \frac{d (-b e+a f)}{(-b c+a d) f} \right] - \text{EllipticF}\left[i \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}} \right], \frac{d (-b e+a f)}{(-b c+a d) f} \right] \right) \Big/ \right)$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\left(-b\,e+a\,f\right)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-\left(21\,i\,b^4\,c^2\,C\right.$$

$$d^2\,e^2\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\,\left(a+b\,x\right)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,\left(a+b\,x\right)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.$$

$$\left.\left.\frac{d\,\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\right]\right)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\left(-b\,e+a\,f\right)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+\left(48\,i\,b^4\,B\,c\right.$$

$$d^3\,e^2\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\,\left(a+b\,x\right)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,\left(a+b\,x\right)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.$$

$$\left.\left.\frac{d\,\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\right]\right)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\left(-b\,e+a\,f\right)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+\left(66\,i\,a\,b^3\,c\,C\right.$$

$$d^3\,e^2\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\,\left(a+b\,x\right)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,\left(a+b\,x\right)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.$$

$$\frac{d\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\Big] - \text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\Big]\Bigg)\Bigg) \Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ \left(-b\,e+a\,f\right)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right) + \Bigg(168\,i\,A\,b^4$$

$$d^4\,e^2\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\left(a+b\,x\right)}}\ \sqrt{1-\frac{-b\,e+a\,f}{f\left(a+b\,x\right)}}\ \Bigg(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],$$

$$\frac{d\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\Big] - \text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\Big]\Bigg)\Bigg) \Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ \left(-b\,e+a\,f\right)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right) + \Bigg(216\,i\,a\,b^3\,B$$

$$d^4\,e^2\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\left(a+b\,x\right)}}\ \sqrt{1-\frac{-b\,e+a\,f}{f\left(a+b\,x\right)}}\ \Bigg(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],$$

$$\frac{d\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\Big] - \text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\Big]\Bigg)\Bigg) \Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ \left(-b\,e+a\,f\right)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right) +$$

$$\Bigg(27\,i\,a^2\,b^2\,C\,d^4\,e^2\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\left(a+b\,x\right)}}\ \sqrt{1-\frac{-b\,e+a\,f}{f\left(a+b\,x\right)}}$$

$$\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\right.$$

$$\left.\left.\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\ \sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(16\,i\,b^4\,c^3\,C\,d\,e\,f^4\ \sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\ \sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\right.$$

$$\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\right.$$

$$\left.\left.\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\ \sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(27\,i\,b^4\,B\,c^2\,d^2\,e\,f^4\ \sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\ \sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\right.$$

$$\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\right.$$

$$\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\Bigg)\Bigg)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(36\,i\,a\,b^3\,c^2\,C\,d^2\,e\,f^4\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\right.$$

$$\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\right.$$

$$\left.\left.\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(63\,i\,A\,b^4\,c\,d^3\,e\,f^4\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\right.$$

$$\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\right.$$

$$\left.\left.\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\left(-b\,e+a\,f\right)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(87\,i\,a\,b^3\,B\,c\,d^3\,e\,f^4\sqrt{1-\frac{-b\,c+a\,d}{d\,\left(a+b\,x\right)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,\left(a+b\,x\right)}}\right.$$

$$\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\,\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\right]-\right.$$

$$\left.\left.\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\,\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\left(-b\,e+a\,f\right)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(15\,i\,a^2\,b^2\,c\,C\,d^3\,e\,f^4\sqrt{1-\frac{-b\,c+a\,d}{d\,\left(a+b\,x\right)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,\left(a+b\,x\right)}}\right.$$

$$\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\,\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\right]-\right.$$

$$\left.\left.\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\,\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\left(-b\,e+a\,f\right)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(273\,i\,a\,A\,b^3\,d^4\,e\,f^4\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\right.$$

$$\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\right.$$

$$\left.\left.\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(36\,i\,a^2\,b^2\,B\,d^4\,e\,f^4\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\right.$$

$$\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\right.$$

$$\left.\left.\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(11\,i\,a^3\,b\,C\,d^4\,e\,f^4\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\right.$$

$$\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\right.$$

$$\left.\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(16\,i\,b^4\,c^4\,C\,f^5\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(24\,i\,b^4\,B\,c^3\,d\,f^5\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(32\,i\,a\,b^3\,c^3\,C\,d\,f^5\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\right.$$

$$\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\right.$$

$$\left.\left.\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(42\,i\,A\,b^4\,c^2\,d^2\,f^5\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(57\,i\,a\,b^3\,B\,c^2\,d^2\,f^5\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\right.$$

$$\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\right.$$

$$\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\Bigg)\Bigg)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(9\,i\,a^2\,b^2\,c^2\,C\,d^2\,f^5\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\ \sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\right.$$

$$\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\right.$$

$$\left.\left.\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(147\,i\,a\,A\,b^3\,c\,d^3\,f^5\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\ \sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\right.$$

$$\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\right.$$

$$\left.\left.\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Bigg/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ (-b e+a f)\sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)+$$

$$\left(27 i a^2 b^2 B c d^3 f^5\sqrt{1-\frac{-b c+a d}{d (a+b x)}}\sqrt{1-\frac{-b e+a f}{f (a+b x)}}\right.$$

$$\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\frac{d (-b e+a f)}{(-b c+a d) f}\right]-\right.$$

$$\left.\left.\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\frac{d (-b e+a f)}{(-b c+a d) f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ (-b e+a f)\sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)-$$

$$\left(7 i a^3 b c C d^3 f^5\sqrt{1-\frac{-b c+a d}{d (a+b x)}}\sqrt{1-\frac{-b e+a f}{f (a+b x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d (-b e+a f)}{(-b c+a d) f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\frac{d (-b e+a f)}{(-b c+a d) f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ (-b e+a f)\sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)+$$

$$\left(63 i a^2 A b^2 d^4 f^5\sqrt{1-\frac{-b c+a d}{d (a+b x)}}\sqrt{1-\frac{-b e+a f}{f (a+b x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\right.\right.\right.$$

$$\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]-\text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]\Bigg)\Bigg)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(18\,i\,a^3\,b\,B\,d^4\,f^5\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\right.\right.$$

$$\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]-\text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]\Bigg)\Bigg)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(8\,i\,a^4\,C\,d^4\,f^5\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\right.\right.$$

$$\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]-\text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]\Bigg)\Bigg)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(64\,i\,b^3\,C\,d^4\,e^3\,f\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\right.$$

$$\text{EllipticF}\left[\text{i}\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\Bigg)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ \sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+\Bigg(12\,\text{i}\,b^3\,c\,C\,d^3\,e^2\,f^2\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}$$

$$\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\ \text{EllipticF}\left[\text{i}\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\Bigg)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ \sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+\Bigg(72\,\text{i}\,b^3\,B\,d^4\,e^2\,f^2\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}$$

$$\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\ \text{EllipticF}\left[\text{i}\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\Bigg)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ \sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+\Bigg(36\,\text{i}\,a\,b^2\,C\,d^4\,e^2\,f^2\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}$$

$$\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\ \text{EllipticF}\left[\text{i}\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\Bigg)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ \sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+\Bigg(9\,\text{i}\,b^3\,c^2\,C\,d^2\,e\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}$$

$$\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\ \text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\Bigg)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ \sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-\Bigg(15\,i\,b^3\,B\,c\,d^3\,e\,f^3\ \sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}$$

$$\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\ \text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\Bigg)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ \sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-\Bigg(12\,i\,a\,b^2\,c\,C\,d^3\,e\,f^3\ \sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}$$

$$\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\ \text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\Bigg)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ \sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-\Bigg(84\,i\,A\,b^3\,d^4\,e\,f^3\ \sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}$$

$$\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\ \text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\Bigg)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ \sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-\Bigg(45\,i\,a\,b^2\,B\,d^4\,e\,f^3\ \sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}$$

$$\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\ \text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\Bigg)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ \sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+\Bigg(15\,i\,a^2\,b\,C\,d^4\,e\,f^3\ \sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}$$

$$\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\ \text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\Bigg)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ \sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+\Bigg(8\,i\,b^3\,c^3\,C\,d\,f^4\ \sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}$$

$$\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\ \text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\Bigg)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ \sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-\Bigg(12\,i\,b^3\,B\,c^2\,d^2\,f^4\ \sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}$$

$$\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\ \text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\Bigg)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ \sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-\Bigg(9\,i\,a\,b^2\,c^2\,C\,d^2\,f^4\ \sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}$$

$$\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\ \text{EllipticF}\left[i\ \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\Bigg)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ \sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+\Bigg(21\,i\,A\,b^3\,c\,d^3\,f^4\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}$$

$$\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\ \text{EllipticF}\left[i\ \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\Bigg)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ \sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+\Bigg(18\,i\,a\,b^2\,B\,c\,d^3\,f^4\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}$$

$$\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\ \text{EllipticF}\left[i\ \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\Bigg)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ \sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-\Bigg(3\,i\,a^2\,b\,c\,C\,d^3\,f^4\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}$$

$$\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\ \text{EllipticF}\left[i\ \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\Bigg)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ \sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\Bigg(63\,i\,a\,A\,b^2\,d^4\,f^4\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\ \sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\ \text{EllipticF}\left[i\ \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.$$

$$\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]\Big/\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(18\,i\,a^2\,b\,B\,d^4\,f^4\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\;\text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\right.$$

$$\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]\Big/\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(8\,i\,a^3\,C\,d^4\,f^4\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\;\text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\right.$$

$$\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]\Big/\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)\right)\right)$$

Problem 68: Result unnecessarily involves complex numbers and more than twice size of optimal antiderivative.

$$\int\frac{\sqrt{a+b\,x}\,\sqrt{c+d\,x}\,\left(A+B\,x+C\,x^2\right)}{\sqrt{e+f\,x}}\,dx$$

Optimal (type 4, 766 leaves, 9 steps) :

$$-\frac{1}{105\,b^2\,d^2\,f^3}2\left(5\,b\,d\,f\left(3\,b\,c\,C\,e+3\,a\,C\,d\,e+a\,c\,C\,f-7\,A\,b\,d\,f\right)+\left(a\,d\,f-2\,b\left(2\,d\,e+c\,f\right)\right)\left(4\,a\,C\,d\,f+b\left(6\,C\,d\,e+4\,c\,C\,f-7\,B\,d\,f\right)\right)\right)\sqrt{a+b\,x}\,\sqrt{c+d\,x}\,\sqrt{e+f\,x}-\frac{1}{35\,b\,d^2\,f^2}2\left(4\,a\,C\,d\,f+b\left(6\,C\,d\,e+4\,c\,C\,f-7\,B\,d\,f\right)\right)\sqrt{a+b\,x}\,\left(c+d\,x\right)^{3/2}\sqrt{e+f\,x}+\frac{2\,C\,\left(a+b\,x\right)^{3/2}\left(c+d\,x\right)^{3/2}\sqrt{e+f\,x}}{7\,b\,d\,f}-\frac{1}{105\,b^3\,d^{5/2}\,f^4\,\sqrt{c+d\,x}\,\sqrt{\frac{b\,(e+f\,x)}{b\,e-a\,f}}}$$

$$2\sqrt{-b\,c+a\,d}\left(3\,b\,d\,f\left(5\,a\,d\,f\left(3\,b\,c\,C\,e+3\,a\,C\,d\,e+a\,c\,C\,f-7\,A\,b\,d\,f\right)-\left(b\,c\,e+3\,a\,d\,e+a\,c\,f\right)\left(4\,a\,C\,d\,f+b\left(6\,C\,d\,e+4\,c\,C\,f-7\,B\,d\,f\right)\right)\right)+2\left(\frac{b\,c\,f}{2}-d\left(b\,e+a\,f\right)\right)\left(5\,b\,d\,f\left(3\,b\,c\,C\,e+3\,a\,C\,d\,e+a\,c\,C\,f-7\,A\,b\,d\,f\right)+\left(a\,d\,f-2\,b\left(2\,d\,e+c\,f\right)\right)\left(4\,a\,C\,d\,f+b\left(6\,C\,d\,e+4\,c\,C\,f-7\,B\,d\,f\right)\right)\right)\right)\sqrt{\frac{b\,(c+d\,x)}{b\,c-a\,d}}\,\sqrt{e+f\,x}\,\text{EllipticE}\left[\text{ArcSin}\left[\frac{\sqrt{d}\,\sqrt{a+b\,x}}{\sqrt{-b\,c+a\,d}}\right],\frac{(b\,c-a\,d)\,f}{d\,(b\,e-a\,f)}\right]+$$

$$\left(2\sqrt{-b\,c+a\,d}\,\left(b\,e-a\,f\right)\left(d\,e-c\,f\right)\left(4\,a^2\,C\,d^2\,f^2+a\,b\,d\,f\left(8\,C\,d\,e-2\,c\,C\,f-7\,B\,d\,f\right)-b^2\left(7\,d\,f\left(8\,B\,d\,e+B\,c\,f-10\,A\,d\,f\right)-4\,C\left(12\,d^2\,e^2+2\,c\,d\,e\,f+c^2\,f^2\right)\right)\right)\sqrt{\frac{b\,(c+d\,x)}{b\,c-a\,d}}\,\sqrt{\frac{b\,(e+f\,x)}{b\,e-a\,f}}\,\text{EllipticF}\left[\text{ArcSin}\left[\frac{\sqrt{d}\,\sqrt{a+b\,x}}{\sqrt{-b\,c+a\,d}}\right],\frac{(b\,c-a\,d)\,f}{d\,(b\,e-a\,f)}\right]\right)\Big/\left(105\,b^3\,d^{5/2}\,f^4\,\sqrt{c+d\,x}\,\sqrt{e+f\,x}\right)$$

Result (type 4, 7297 leaves):

$$\sqrt{a+b\,x}\,\sqrt{c+d\,x}\,\sqrt{e+f\,x}\left(\frac{1}{105\,b^2\,d^2\,f^3}2\left(24\,b^2\,C\,d^2\,e^2-5\,b^2\,c\,C\,d\,e\,f-28\,b^2\,B\,d^2\,e\,f-5\,a\,b\,C\,d^2\,e\,f-4\,b^2\,c^2\,C\,f^2+7\,b^2\,B\,c\,d\,f^2+2\,a\,b\,c\,C\,d\,f^2+35\,A\,b^2\,d^2\,f^2+7\,a\,b\,B\,d^2\,f^2-4\,a^2\,C\,d^2\,f^2\right)+\frac{2\left(-6\,b\,C\,d\,e+b\,c\,C\,f+7\,b\,B\,d\,f+a\,C\,d\,f\right)x}{35\,b\,d\,f^2}+\frac{2\,C\,x^2}{7\,f}\right)+\frac{1}{105\,b^4\,d^2\,f^3}$$

$$2\left(\frac{1}{d\,f\sqrt{c+\frac{(a+b\,x)\left(d-\frac{a\,d}{a+b\,x}\right)}{b}}\,\sqrt{e+\frac{(a+b\,x)\left(f-\frac{a\,f}{a+b\,x}\right)}{b}}}\left(-48\,b^3\,C\,d^3\,e^3+16\,b^3\,c\,C\,d^2\,e^2\,f+56\,b^3\,B\,d^3\,e^2\,f+16\,a\,b^2\,C\,d^3\,e^2\,f+9\,b^3\,c^2\,C\,d\,e\,f^2-21\,b^3\,B\,c\,d^2\,e\,f^2-8\,a\,b^2\,c\,C\,d^2\,e\,f^2-70\,A\,b^3\,d^3\,e\,f^2-21\,a\,b^2\,B\,d^3\,e\,f^2+9\,a^2\,b\,C\,d^3\,e\,f^2+8\,b^3\,c^3\,C\,f^3-14\,b^3\,B\,c^2\,d\,f^3-5\,a\,b^2\,c^2\,C\,d\,f^3+35\,A\,b^3\,c\,d^2\,f^3+14\,a\,b^2\,B\,c\,d^2\,f^3-5\,a^2\,b\,c\,C\,d^2\,f^3+35\,a\,A\,b^2\,d^3\,f^3-14\,a^2\,b\,B\,d^3\,f^3+8\,a^3\,C\,d^3\,f^3\right)\left(a+b\,x\right)^{3/2}$$

$$\left(d+\frac{b\,c}{a+b\,x}-\frac{a\,d}{a+b\,x}\right)\left(f+\frac{b\,e}{a+b\,x}-\frac{a\,f}{a+b\,x}\right)+\frac{1}{d\,f\sqrt{c+\frac{(a+b\,x)\left(d-\frac{a\,d}{a+b\,x}\right)}{b}}\sqrt{e+\frac{(a+b\,x)\left(f-\frac{a\,f}{a+b\,x}\right)}{b}}}$$

$$(-b\,c+a\,d)\,(-b\,e+a\,f)\,(a+b\,x)\sqrt{\left(d+\frac{b\,c}{a+b\,x}-\frac{a\,d}{a+b\,x}\right)\left(f+\frac{b\,e}{a+b\,x}-\frac{a\,f}{a+b\,x}\right)}$$

$$\left(\left(48\,i\,b^3\,C\,d^3\,e^3\,f\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-\left(16\,i\,b^3\,c\,C\right.$$

$$d^2\,e^2\,f^2\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.$$

$$\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(56\,i\,b^3\,B\,d^3\,e^2\,f^2\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\frac{d\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\Big]-\text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\Big]\Bigg)\Bigg)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ \left(-b\,e+a\,f\right)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-\Bigg(16\,i\,a\,b^2\,C$$

$$d^3\,e^2\,f^2\sqrt{1-\frac{-b\,c+a\,d}{d\left(a+b\,x\right)}}\ \sqrt{1-\frac{-b\,e+a\,f}{f\left(a+b\,x\right)}}\ \Bigg(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],$$

$$\frac{d\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\Big]-\text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\Big]\Bigg)\Bigg)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ \left(-b\,e+a\,f\right)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\Bigg(9\,i\,b^3\,c^2\,C\,d\,e\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\left(a+b\,x\right)}}\ \sqrt{1-\frac{-b\,e+a\,f}{f\left(a+b\,x\right)}}\ \Bigg(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],$$

$$\frac{d\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\Big]-\text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\Big]\Bigg)\Bigg)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ \left(-b\,e+a\,f\right)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+\Bigg(21\,i\,b^3\,B\,c$$

$$d^2\,e\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\left(a+b\,x\right)}}\ \sqrt{1-\frac{-b\,e+a\,f}{f\left(a+b\,x\right)}}\ \Bigg(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],$$

$$\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]-\text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]\Bigg)\Bigg)\Big/$$

$$\Bigg(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\sqrt{\Big(d+\frac{b\,c-a\,d}{a+b\,x}\Big)\Big(f+\frac{b\,e-a\,f}{a+b\,x}\Big)}\Bigg)+\Bigg(8\,i\,a\,b^2\,c\,C$$

$$d^2\,e\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\ \sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\Bigg(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],$$

$$\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]-\text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]\Bigg)\Bigg)\Big/$$

$$\Bigg(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\sqrt{\Big(d+\frac{b\,c-a\,d}{a+b\,x}\Big)\Big(f+\frac{b\,e-a\,f}{a+b\,x}\Big)}\Bigg)+$$

$$\Bigg(70\,i\,A\,b^3\,d^3\,e\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\ \sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\Bigg(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],$$

$$\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]-\text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]\Bigg)\Bigg)\Big/$$

$$\Bigg(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\sqrt{\Big(d+\frac{b\,c-a\,d}{a+b\,x}\Big)\Big(f+\frac{b\,e-a\,f}{a+b\,x}\Big)}\Bigg)+$$

$$\Bigg(21\,i\,a\,b^2\,B\,d^3\,e\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\ \sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}$$

$$\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\right.$$

$$\left.\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(9\,i\,a^2\,b\,C\,d^3\,e\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(8\,i\,b^3\,c^3\,C\,f^4\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(14\,i\,b^3\,B\,c^2\,d\,f^4\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(5\,i\,a\,b^2\,c^2\,C\,d\,f^4\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(35\,i\,A\,b^3\,c\,d^2\,f^4\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(14\,i\,a\,b^2\,B\,c\,d^2\,f^4\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\right.$$

$$\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\right.$$

$$\left.\left.\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(5\,i\,a^2\,b\,c\,C\,d^2\,f^4\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(35\,i\,a\,A\,b^2\,d^3\,f^4\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ (-b e+a f)\sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)+$$

$$\left(14 i a^2 b B d^3 f^4\sqrt{1-\frac{-b c+a d}{d (a+b x)}}\sqrt{1-\frac{-b e+a f}{f (a+b x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d (-b e+a f)}{(-b c+a d) f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\frac{d (-b e+a f)}{(-b c+a d) f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ (-b e+a f)\sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)-$$

$$\left(8 i a^3 C d^3 f^4\sqrt{1-\frac{-b c+a d}{d (a+b x)}}\sqrt{1-\frac{-b e+a f}{f (a+b x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d (-b e+a f)}{(-b c+a d) f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\frac{d (-b e+a f)}{(-b c+a d) f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ (-b e+a f)\sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)-$$

$$\left(24 i b^2 C d^3 e^2 f\sqrt{1-\frac{-b c+a d}{d (a+b x)}}\sqrt{1-\frac{-b e+a f}{f (a+b x)}}\right.$$

$$\left.\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\frac{d (-b e+a f)}{(-b c+a d) f}\right]\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+\left(5\,i\,b^2\,c\,C\,d^2\,e\,f^2\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\right.$$

$$\left.\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\,\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+\left(28\,i\,b^2\,B\,d^3\,e\,f^2\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\right.$$

$$\left.\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\,\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-\left(13\,i\,a\,b\,C\,d^3\,e\,f^2\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\right.$$

$$\left.\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\,\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+\left(4\,i\,b^2\,c^2\,C\,d\,f^3\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\right.$$

$$\left.\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\,\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)-\left(7 i b^2 B c d^2 f^3 \sqrt{1-\frac{-b c+a d}{d (a+b x)}}\right.$$

$$\left.\sqrt{1-\frac{-b e+a f}{f (a+b x)}}\ \text{EllipticF}\left[i\ \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\ \frac{d (-b e+a f)}{(-b c+a d) f}\right]\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)+\left(i a b c C d^2 f^3 \sqrt{1-\frac{-b c+a d}{d (a+b x)}}\right.$$

$$\left.\sqrt{1-\frac{-b e+a f}{f (a+b x)}}\ \text{EllipticF}\left[i\ \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\ \frac{d (-b e+a f)}{(-b c+a d) f}\right]\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)-\left(35 i A b^2 d^3 f^3 \sqrt{1-\frac{-b c+a d}{d (a+b x)}}\right.$$

$$\left.\sqrt{1-\frac{-b e+a f}{f (a+b x)}}\ \text{EllipticF}\left[i\ \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\ \frac{d (-b e+a f)}{(-b c+a d) f}\right]\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)+\left(14 i a b B d^3 f^3 \sqrt{1-\frac{-b c+a d}{d (a+b x)}}\right.$$

$$\left.\sqrt{1-\frac{-b e+a f}{f (a+b x)}}\ \text{EllipticF}\left[i\ \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\ \frac{d (-b e+a f)}{(-b c+a d) f}\right]\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)-$$

$$\left(8\,i\,a^2\,C\,d^3\,f^3\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\,\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\Bigg/\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)\right)$$

Problem 69: Result unnecessarily involves complex numbers and more than twice size of optimal antiderivative.

$$\int\frac{\sqrt{c+d\,x}\,\left(A+B\,x+C\,x^2\right)}{\sqrt{a+b\,x}\,\sqrt{e+f\,x}}\,dx$$

Optimal (type 4, 527 leaves, 8 steps):

$$-\frac{2\left(4\,a\,C\,d\,f+b\left(4\,C\,d\,e+2\,c\,C\,f-5\,B\,d\,f\right)\right)\sqrt{a+b\,x}\,\sqrt{c+d\,x}\,\sqrt{e+f\,x}}{15\,b^2\,d\,f^2}+$$

$$\frac{2\,C\,\sqrt{a+b\,x}\,(c+d\,x)^{3/2}\,\sqrt{e+f\,x}}{5\,b\,d\,f}-\left(2\,\sqrt{-b\,c+a\,d}\,\left(3\,b\,d\,f\left(b\,c\,C\,e+3\,a\,C\,d\,e+a\,c\,C\,f-5\,A\,b\,d\,f\right)-\left(2\,b\,d\,e-b\,c\,f+2\,a\,d\,f\right)\left(4\,a\,C\,d\,f+b\left(4\,C\,d\,e+2\,c\,C\,f-5\,B\,d\,f\right)\right)\right)\right.$$

$$\left.\sqrt{\frac{b\,(c+d\,x)}{b\,c-a\,d}}\,\sqrt{e+f\,x}\,\text{EllipticE}\left[\text{ArcSin}\left[\frac{\sqrt{d}\,\sqrt{a+b\,x}}{\sqrt{-b\,c+a\,d}}\right],\frac{(b\,c-a\,d)\,f}{d\,(b\,e-a\,f)}\right]\right)\Bigg/$$

$$\left(15\,b^3\,d^{3/2}\,f^3\,\sqrt{c+d\,x}\,\sqrt{\frac{b\,(e+f\,x)}{b\,e-a\,f}}\right)-\left(2\,\sqrt{-b\,c+a\,d}\,\left(d\,e-c\,f\right)\right.$$

$$\left(4\,a^2\,C\,d\,f^2+a\,b\,f\left(3\,C\,d\,e-c\,C\,f-5\,B\,d\,f\right)-b^2\left(5\,d\,f\left(2\,B\,e-3\,A\,f\right)-C\,e\left(8\,d\,e+c\,f\right)\right)\right)$$

$$\left.\sqrt{\frac{b\,(c+d\,x)}{b\,c-a\,d}}\,\sqrt{\frac{b\,(e+f\,x)}{b\,e-a\,f}}\,\text{EllipticF}\left[\text{ArcSin}\left[\frac{\sqrt{d}\,\sqrt{a+b\,x}}{\sqrt{-b\,c+a\,d}}\right],\frac{(b\,c-a\,d)\,f}{d\,(b\,e-a\,f)}\right]\right)\Bigg/$$

$$\left(15\,b^3\,d^{3/2}\,f^3\,\sqrt{c+d\,x}\,\sqrt{e+f\,x}\right)$$

Result (type 4, 5393 leaves):

$$\sqrt{a+b\,x}\,\sqrt{c+d\,x}\,\left(\frac{2\left(-4\,b\,C\,d\,e+b\,c\,C\,f+5\,b\,B\,d\,f-4\,a\,C\,d\,f\right)}{15\,b^2\,d\,f^2}+\frac{2\,C\,x}{5\,b\,f}\right)\sqrt{e+f\,x}+$$

$$\frac{1}{15\,b^4\,d\,f^2}\,2\left(\left(\left(8\,b^2\,C\,d^2\,e^2-3\,b^2\,c\,C\,d\,e\,f-10\,b^2\,B\,d^2\,e\,f+7\,a\,b\,C\,d^2\,e\,f-2\,b^2\,c^2\,C\,f^2+5\,b^2\,B\,c\,d\,f^2-3\,a\,b\,c\,C\,d\,f^2+15\,A\,b^2\,d^2\,f^2-10\,a\,b\,B\,d^2\,f^2+8\,a^2\,C\,d^2\,f^2\right)\left(a+b\,x\right)^{3/2}\left(d+\frac{b\,c}{a+b\,x}-\frac{a\,d}{a+b\,x}\right)\left(f+\frac{b\,e}{a+b\,x}-\frac{a\,f}{a+b\,x}\right)\right)\Big/\left(d\,f\sqrt{c+\frac{\left(a+b\,x\right)\left(d-\frac{a\,d}{a+b\,x}\right)}{b}}\sqrt{e+\frac{\left(a+b\,x\right)\left(f-\frac{a\,f}{a+b\,x}\right)}{b}}\right)+\frac{1}{d\,f\sqrt{c+\frac{(a+b\,x)\left(d-\frac{a\,d}{a+b\,x}\right)}{b}}\sqrt{e+\frac{(a+b\,x)\left(f-\frac{a\,f}{a+b\,x}\right)}{b}}}\left(-b\,c+a\,d\right)\left(a+b\,x\right)\sqrt{\left(d+\frac{b\,c}{a+b\,x}-\frac{a\,d}{a+b\,x}\right)\left(f+\frac{b\,e}{a+b\,x}-\frac{a\,f}{a+b\,x}\right)}\left(\left(\left(8\,i\,b^3\,C\,d^2\,e^3\,f\sqrt{1-\frac{-b\,c+a\,d}{d\left(a+b\,x\right)}}\sqrt{1-\frac{-b\,e+a\,f}{f\left(a+b\,x\right)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)f}\right]\right)\right)\Big/\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\left(-b\,e+a\,f\right)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-\left(3\,i\,b^3\,c\,C\,d\,e^2\,f^2\sqrt{1-\frac{-b\,c+a\,d}{d\left(a+b\,x\right)}}\sqrt{1-\frac{-b\,e+a\,f}{f\left(a+b\,x\right)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)f}\right]\right)\right)\Big/
$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ (-b e+a f)\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)-$$

$$\left(10\, i\, b^3 B d^2 e^2 f^2 \sqrt{1-\frac{-b c+a d}{d\,(a+b x)}}\ \sqrt{1-\frac{-b e+a f}{f\,(a+b x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b e+a f)}{(-b c+a d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\frac{d\,(-b e+a f)}{(-b c+a d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ (-b e+a f)\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)-$$

$$\left(i\, a b^2 C d^2 e^2 f^2 \sqrt{1-\frac{-b c+a d}{d\,(a+b x)}}\ \sqrt{1-\frac{-b e+a f}{f\,(a+b x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b e+a f)}{(-b c+a d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\frac{d\,(-b e+a f)}{(-b c+a d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ (-b e+a f)\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)-$$

$$\left(2\, i\, b^3 c^2 C e f^3 \sqrt{1-\frac{-b c+a d}{d\,(a+b x)}}\ \sqrt{1-\frac{-b e+a f}{f\,(a+b x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b e+a f)}{(-b c+a d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\frac{d\,(-b e+a f)}{(-b c+a d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ (-b e+a f)\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)+$$

$$\left(5\,i\,b^3\,B\,c\,d\,e\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(15\,i\,A\,b^3\,d^2\,e\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(i\,a^2\,b\,C\,d^2\,e\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(2\,i\,a\,b^2\,c^2\,C\,f^4\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(5\,i\,a\,b^2\,B\,c\,d\,f^4\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(3\,i\,a^2\,b\,c\,C\,d\,f^4\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(15\,i\,a\,A\,b^2\,d^2\,f^4\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(10\,i\,a^2\,b\,B\,d^2\,f^4\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(8\,i\,a^3\,C\,d^2\,f^4\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(4\,i\,b^2\,C\,d^2\,e^2\,f\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\,\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.$$

$$\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Big/\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(i\,b^2\,c\,C\,d\,e\,f^2\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\,\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.$$

$$\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Big/\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(5\,i\,b^2\,B\,d^2\,e\,f^2\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\,\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.$$

$$\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Big/\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(3\,i\,a\,b\,C\,d^2\,e\,f^2\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\,\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.$$

$$\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Big/\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(i\,a\,b\,c\,C\,d\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\,\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.$$

$$\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\Big/\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-\right.$$

$$\left(15\,i\,A\,b^2\,d^2\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\,\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.$$

$$\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\Big/\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+\right.$$

$$\left(10\,i\,a\,b\,B\,d^2\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\,\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.$$

$$\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\Big/\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-\right.$$

$$\left(8\,i\,a^2\,C\,d^2\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\,\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\Big/\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)\right)\right)$$

Problem 70: Result unnecessarily involves complex numbers and more than twice size of optimal antiderivative.

$$\int \frac{\sqrt{c+d\,x}\,\left(A+B\,x+C\,x^2\right)}{(a+b\,x)^{3/2}\,\sqrt{e+f\,x}}\,dx$$

Optimal (type 4, 540 leaves, 8 steps):

$$\left(2\left(4\,a^2\,C\,d\,f+b^2\left(c\,C\,e+3\,A\,d\,f\right)-a\,b\left(C\,d\,e+c\,C\,f+3\,B\,d\,f\right)\right)\sqrt{a+b\,x}\,\sqrt{c+d\,x}\,\sqrt{e+f\,x}\right)\Big/$$
$$\left(3\,b^2\left(b\,c-a\,d\right)f\left(b\,e-a\,f\right)\right)-\frac{2\left(A\,b^2-a\left(b\,B-a\,C\right)\right)(c+d\,x)^{3/2}\sqrt{e+f\,x}}{b\left(b\,c-a\,d\right)\left(b\,e-a\,f\right)\sqrt{a+b\,x}}+$$
$$\left(2\sqrt{-b\,c+a\,d}\,\left(8\,a^2\,C\,d\,f^2-a\,b\,f\left(3\,C\,d\,e+c\,C\,f+6\,B\,d\,f\right)+b^2\left(3\,d\,f\left(B\,e+A\,f\right)-C\,e\left(2\,d\,e-c\,f\right)\right)\right)\right.$$
$$\left.\sqrt{\frac{b\,(c+d\,x)}{b\,c-a\,d}}\,\sqrt{e+f\,x}\,\text{EllipticE}\left[\text{ArcSin}\left[\frac{\sqrt{d}\,\sqrt{a+b\,x}}{\sqrt{-b\,c+a\,d}}\right],\frac{(b\,c-a\,d)\,f}{d\,(b\,e-a\,f)}\right]\right)\Big/$$
$$\left(3\,b^3\sqrt{d}\,f^2\left(b\,e-a\,f\right)\sqrt{c+d\,x}\,\sqrt{\frac{b\,(e+f\,x)}{b\,e-a\,f}}\right)+$$
$$\left(2\sqrt{-b\,c+a\,d}\,(d\,e-c\,f)\left(2\,b\,C\,e-3\,b\,B\,f+4\,a\,C\,f\right)\sqrt{\frac{b\,(c+d\,x)}{b\,c-a\,d}}\,\sqrt{\frac{b\,(e+f\,x)}{b\,e-a\,f}}\right.$$
$$\left.\text{EllipticF}\left[\text{ArcSin}\left[\frac{\sqrt{d}\,\sqrt{a+b\,x}}{\sqrt{-b\,c+a\,d}}\right],\frac{(b\,c-a\,d)\,f}{d\,(b\,e-a\,f)}\right]\right)\Big/\left(3\,b^3\sqrt{d}\,f^2\sqrt{c+d\,x}\,\sqrt{e+f\,x}\right)$$

Result (type 4, 5168 leaves):

$$\sqrt{a+b\,x}\,\sqrt{c+d\,x}\,\sqrt{e+f\,x}\left(\frac{2\,C}{3\,b^2\,f}-\frac{2\left(A\,b^2-a\,b\,B+a^2\,C\right)}{b^2\left(b\,e-a\,f\right)(a+b\,x)}\right)+$$
$$\frac{1}{3\,b^4\,f\left(b\,e-a\,f\right)}2\left(\left(\left(-2\,b^2\,C\,d\,e^2+b^2\,c\,C\,e\,f+3\,b^2\,B\,d\,e\,f-3\,a\,b\,C\,d\,e\,f-a\,b\,c\,C\,f^2+3\,A\,b^2\,d\,f^2-\right.\right.\right.$$
$$\left.\left.\left.6\,a\,b\,B\,d\,f^2+8\,a^2\,C\,d\,f^2\right)(a+b\,x)^{3/2}\left(d+\frac{b\,c}{a+b\,x}-\frac{a\,d}{a+b\,x}\right)\left(f+\frac{b\,e}{a+b\,x}-\frac{a\,f}{a+b\,x}\right)\right)\Big/$$
$$\left(d\,f\sqrt{c+\frac{(a+b\,x)\left(d-\frac{a\,d}{a+b\,x}\right)}{b}}\,\sqrt{e+\frac{(a+b\,x)\left(f-\frac{a\,f}{a+b\,x}\right)}{b}}\right)+$$
$$\frac{1}{d\,f\sqrt{c+\frac{(a+b\,x)\left(d-\frac{a\,d}{a+b\,x}\right)}{b}}\,\sqrt{e+\frac{(a+b\,x)\left(f-\frac{a\,f}{a+b\,x}\right)}{b}}}$$

$$(-b e+a f)\ (a+b x)\ \sqrt{\left(d+\frac{b c}{a+b x}-\frac{a d}{a+b x}\right)\ \left(f+\frac{b e}{a+b x}-\frac{a f}{a+b x}\right)}$$

$$\left(-\left(\left(\left(2 i b^3 c C d e^2 f \sqrt{1-\frac{-b c+a d}{d\ (a+b x)}}\ \sqrt{1-\frac{-b e+a f}{f\ (a+b x)}}\ \left(\text{EllipticE}\left[i\ \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\right.\right.\right.\right.\right.$$

$$\left.\left.\left.\left.\left.\frac{d\ (-b e+a f)}{(-b c+a d)\ f}\right]-\text{EllipticF}\left[i\ \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\ \frac{d\ (-b e+a f)}{(-b c+a d)\ f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ (-b e+a f)\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\ \left(f+\frac{b e-a f}{a+b x}\right)}\right)+$$

$$\left(2 i a b^2 C d^2 e^2 f \sqrt{1-\frac{-b c+a d}{d\ (a+b x)}}\ \sqrt{1-\frac{-b e+a f}{f\ (a+b x)}}\ \left(\text{EllipticE}\left[i\ \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\ (-b e+a f)}{(-b c+a d)\ f}\right]-\text{EllipticF}\left[i\ \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\ \frac{d\ (-b e+a f)}{(-b c+a d)\ f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ (-b e+a f)\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\ \left(f+\frac{b e-a f}{a+b x}\right)}\right)+$$

$$\left(i b^3 c^2 C e f^2 \sqrt{1-\frac{-b c+a d}{d\ (a+b x)}}\ \sqrt{1-\frac{-b e+a f}{f\ (a+b x)}}\ \left(\text{EllipticE}\left[i\ \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\ (-b e+a f)}{(-b c+a d)\ f}\right]-\text{EllipticF}\left[i\ \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\ \frac{d\ (-b e+a f)}{(-b c+a d)\ f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ (-b e+a f)\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)+$$

$$\left(3 i b^3 B c d e f^2 \sqrt{1-\frac{-b c+a d}{d (a+b x)}}\ \sqrt{1-\frac{-b e+a f}{f (a+b x)}}\left(\text{EllipticE}\left[i \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d (-b e+a f)}{(-b c+a d) f}\right]-\text{EllipticF}\left[i \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\ \frac{d (-b e+a f)}{(-b c+a d) f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ (-b e+a f)\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)-\left(4 i a b^2 c C\right.$$

$$d e f^2 \sqrt{1-\frac{-b c+a d}{d (a+b x)}}\ \sqrt{1-\frac{-b e+a f}{f (a+b x)}}\left(\text{EllipticE}\left[i \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\right.\right.$$

$$\left.\left.\left.\frac{d (-b e+a f)}{(-b c+a d) f}\right]-\text{EllipticF}\left[i \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\ \frac{d (-b e+a f)}{(-b c+a d) f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ (-b e+a f)\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)-$$

$$\left(3 i a b^2 B d^2 e f^2 \sqrt{1-\frac{-b c+a d}{d (a+b x)}}\ \sqrt{1-\frac{-b e+a f}{f (a+b x)}}\left(\text{EllipticE}\left[i \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d (-b e+a f)}{(-b c+a d) f}\right]-\text{EllipticF}\left[i \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\ \frac{d (-b e+a f)}{(-b c+a d) f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ (-b e+a f)\sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)+$$

$$\left(3 i a^2 b C d^2 e f^2\sqrt{1-\frac{-b c+a d}{d (a+b x)}}\sqrt{1-\frac{-b e+a f}{f (a+b x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d (-b e+a f)}{(-b c+a d) f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\frac{d (-b e+a f)}{(-b c+a d) f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ (-b e+a f)\sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)-$$

$$\left(i a b^2 c^2 C f^3\sqrt{1-\frac{-b c+a d}{d (a+b x)}}\sqrt{1-\frac{-b e+a f}{f (a+b x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d (-b e+a f)}{(-b c+a d) f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\frac{d (-b e+a f)}{(-b c+a d) f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ (-b e+a f)\sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)+$$

$$\left(3 i A b^3 c d f^3\sqrt{1-\frac{-b c+a d}{d (a+b x)}}\sqrt{1-\frac{-b e+a f}{f (a+b x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d (-b e+a f)}{(-b c+a d) f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\frac{d (-b e+a f)}{(-b c+a d) f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ (-b e+a f)\sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)-$$

$$\left(6\,i\,a\,b^2\,B\,c\,d\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(9\,i\,a^2\,b\,c\,C\,d\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(3\,i\,a\,A\,b^2\,d^2\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(6\,i\,a^2\,b\,B\,d^2\,f^3\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(8\,i\,a^3\,C\,d^2\,f^3\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(i\,b^2\,c\,C\,d\,e\,f\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\,\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.$$

$$\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Big/\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(i\,a\,b\,C\,d^2\,e\,f\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\,\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.$$

$$\frac{d\left(-b e+a f\right)}{\left(-b c+a d\right) f}\Bigg]\Bigg/\left(\sqrt{-\frac{-b c+a d}{d}}\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)-$$

$$\left(3 i b^2 B c d f^2\sqrt{1-\frac{-b c+a d}{d\left(a+b x\right)}}\ \sqrt{1-\frac{-b e+a f}{f\left(a+b x\right)}}\ \text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\right.\right.$$

$$\frac{d\left(-b e+a f\right)}{\left(-b c+a d\right) f}\Bigg]\Bigg/\left(\sqrt{-\frac{-b c+a d}{d}}\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)+$$

$$\left(5 i a b c C d f^2\sqrt{1-\frac{-b c+a d}{d\left(a+b x\right)}}\ \sqrt{1-\frac{-b e+a f}{f\left(a+b x\right)}}\ \text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\right.\right.$$

$$\frac{d\left(-b e+a f\right)}{\left(-b c+a d\right) f}\Bigg]\Bigg/\left(\sqrt{-\frac{-b c+a d}{d}}\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)-$$

$$\left(3 i A b^2 d^2 f^2\sqrt{1-\frac{-b c+a d}{d\left(a+b x\right)}}\ \sqrt{1-\frac{-b e+a f}{f\left(a+b x\right)}}\ \text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\right.\right.$$

$$\frac{d\left(-b e+a f\right)}{\left(-b c+a d\right) f}\Bigg]\Bigg/\left(\sqrt{-\frac{-b c+a d}{d}}\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)+$$

$$\left(6 i a b B d^2 f^2\sqrt{1-\frac{-b c+a d}{d\left(a+b x\right)}}\ \sqrt{1-\frac{-b e+a f}{f\left(a+b x\right)}}\ \text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\right.\right.$$

$$\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Bigg]\Bigg/\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(8\,i\,a^2\,C\,d^2\,f^2\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\;\text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\right.$$

$$\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Bigg]\Bigg/\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)\right)$$

Problem 71: Result unnecessarily involves complex numbers and more than twice size of optimal antiderivative.

$$\int\frac{\sqrt{c+d\,x}\;\left(A+B\,x+C\,x^2\right)}{(a+b\,x)^{5/2}\,\sqrt{e+f\,x}}\,dx$$

Optimal (type 4, 597 leaves, 8 steps):

$$-\frac{2\left(4a^2Cf+b^2\left(3Be-2Af\right)-ab\left(6Ce+Bf\right)\right)\sqrt{c+dx}\,\sqrt{e+fx}}{3b^2\left(be-af\right)^2\sqrt{a+bx}}-$$

$$\frac{2\left(Ab^2-a\left(bB-aC\right)\right)\left(c+dx\right)^{3/2}\sqrt{e+fx}}{3b\left(bc-ad\right)\left(be-af\right)\left(a+bx\right)^{3/2}}+\left(2\sqrt{d}\left(8a^3Cdf^2-a^2bf\left(13Cde+7cCf+2Bdf\right)+\right.\right.$$

$$\left.ab^2\left(3Ce\left(de+4cf\right)+f\left(4Bde+Bcf-Adf\right)\right)-b^3\left(Adef+c\left(3Ce^2+3Bef-2Af^2\right)\right)\right)$$

$$\left.\sqrt{\frac{b\left(c+dx\right)}{bc-ad}}\,\sqrt{e+fx}\,\text{EllipticE}\left[\text{ArcSin}\left[\frac{\sqrt{d}\,\sqrt{a+bx}}{\sqrt{-bc+ad}}\right],\frac{\left(bc-ad\right)f}{d\left(be-af\right)}\right]\right)\Big/$$

$$\left(3b^3\sqrt{-bc+ad}\,f\left(be-af\right)^2\sqrt{c+dx}\,\sqrt{\frac{b\left(e+fx\right)}{be-af}}\right)+$$

$$\left(2\left(de-cf\right)\left(4a^2Cdf+b^2\left(3cCe+Adf\right)-ab\left(Bdf+3C\left(de+cf\right)\right)\right)\right.$$

$$\left.\sqrt{\frac{b\left(c+dx\right)}{bc-ad}}\,\sqrt{\frac{b\left(e+fx\right)}{be-af}}\,\text{EllipticF}\left[\text{ArcSin}\left[\frac{\sqrt{d}\,\sqrt{a+bx}}{\sqrt{-bc+ad}}\right],\frac{\left(bc-ad\right)f}{d\left(be-af\right)}\right]\right)\Big/$$

$$\left(3b^3\sqrt{d}\,\sqrt{-bc+ad}\,f\left(be-af\right)\sqrt{c+dx}\,\sqrt{e+fx}\right)$$

Result (type 4, 5074 leaves):

$$\sqrt{a+bx}\,\sqrt{c+dx}\,\sqrt{e+fx}$$

$$\left(-\frac{2\left(Ab^2-abB+a^2C\right)}{3b^2\left(be-af\right)\left(a+bx\right)^2}-\left(2\left(3b^3Bce-6ab^2cCe+Ab^3de-4ab^2Bde+7a^2bCde-\right.\right.\right.$$

$$\left.\left.\left.2Ab^3cf-ab^2Bcf+4a^2bcCf+aAb^2df+2a^2bBdf-5a^3Cdf\right)\right)\Big/$$

$$\left.\left(3b^2\left(bc-ad\right)\left(be-af\right)^2\left(a+bx\right)\right)\right)-\frac{1}{3b^4\left(bc-ad\right)\left(be-af\right)^2}$$

$$2\left(\left(\left(-3b^3cCe^2+3ab^2Cde^2-3b^3Bcef+12ab^2cCef-Ab^3def+4ab^2Bdef-\right.\right.\right.$$

$$\left.\left.\left.13a^2bCdef+2Ab^3cf^2+ab^2Bcf^2-7a^2bcCf^2-aAb^2df^2-2a^2bBdf^2+8a^3Cdf^2\right)\right.\right.$$

$$\left.\left.\left(a+bx\right)^{3/2}\left(d+\frac{bc}{a+bx}-\frac{ad}{a+bx}\right)\left(f+\frac{be}{a+bx}-\frac{af}{a+bx}\right)\right)\Big/\right.$$

$$\left.\left(f\sqrt{c+\frac{\left(a+bx\right)\left(d-\frac{ad}{a+bx}\right)}{b}}\,\sqrt{e+\frac{\left(a+bx\right)\left(f-\frac{af}{a+bx}\right)}{b}}\right)-\right.$$

$$\frac{1}{f\sqrt{c+\frac{(a+bx)\left(d-\frac{ad}{a+bx}\right)}{b}}\sqrt{e+\frac{(a+bx)\left(f-\frac{af}{a+bx}\right)}{b}}}$$

$$(bc-ad)(-be+af)(a+bx)\sqrt{\left(d+\frac{bc}{a+bx}-\frac{ad}{a+bx}\right)\left(f+\frac{be}{a+bx}-\frac{af}{a+bx}\right)}$$

$$\left(\left(3ib^3cCe^2f\sqrt{1-\frac{-bc+ad}{d(a+bx)}}\sqrt{1-\frac{-be+af}{f(a+bx)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-bc+ad}{d}}}{\sqrt{a+bx}}\right],\frac{d(-be+af)}{(-bc+ad)f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-bc+ad}{d}}}{\sqrt{a+bx}}\right],\frac{d(-be+af)}{(-bc+ad)f}\right]\right)\right)\Big/\left(\sqrt{-\frac{-bc+ad}{d}}(-be+af)\sqrt{\left(d+\frac{bc-ad}{a+bx}\right)\left(f+\frac{be-af}{a+bx}\right)}\right)-\left(3iab^2Cde^2f\sqrt{1-\frac{-bc+ad}{d(a+bx)}}\sqrt{1-\frac{-be+af}{f(a+bx)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-bc+ad}{d}}}{\sqrt{a+bx}}\right],\frac{d(-be+af)}{(-bc+ad)f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-bc+ad}{d}}}{\sqrt{a+bx}}\right],\frac{d(-be+af)}{(-bc+ad)f}\right]\right)\right)\Big/\left(\sqrt{-\frac{-bc+ad}{d}}(-be+af)\sqrt{\left(d+\frac{bc-ad}{a+bx}\right)\left(f+\frac{be-af}{a+bx}\right)}\right)+\left(3ib^3Bcef^2\sqrt{1-\frac{-bc+ad}{d(a+bx)}}\sqrt{1-\frac{-be+af}{f(a+bx)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-bc+ad}{d}}}{\sqrt{a+bx}}\right],\frac{d(-be+af)}{(-bc+ad)f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-bc+ad}{d}}}{\sqrt{a+bx}}\right],\frac{d(-be+af)}{(-bc+ad)f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ (-b e+a f)\sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)-$$

$$\left(12 i a b^2 c C e f^2\sqrt{1-\frac{-b c+a d}{d (a+b x)}}\sqrt{1-\frac{-b e+a f}{f (a+b x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d (-b e+a f)}{(-b c+a d) f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\frac{d (-b e+a f)}{(-b c+a d) f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ (-b e+a f)\sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)+$$

$$\left(i A b^3 d e f^2\sqrt{1-\frac{-b c+a d}{d (a+b x)}}\sqrt{1-\frac{-b e+a f}{f (a+b x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d (-b e+a f)}{(-b c+a d) f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\frac{d (-b e+a f)}{(-b c+a d) f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ (-b e+a f)\sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)-$$

$$\left(4 i a b^2 B d e f^2\sqrt{1-\frac{-b c+a d}{d (a+b x)}}\sqrt{1-\frac{-b e+a f}{f (a+b x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d (-b e+a f)}{(-b c+a d) f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\frac{d (-b e+a f)}{(-b c+a d) f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ (-b e+a f)\sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)+$$

$$\left(13\,i\,a^2\,b\,C\,d\,e\,f^2\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(2\,i\,A\,b^3\,c\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(i\,a\,b^2\,B\,c\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(7\,i\,a^2\,b\,c\,C\,f^3\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(i\,a\,A\,b^2\,d\,f^3\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(2\,i\,a^2\,b\,B\,d\,f^3\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(8\,i\,a^3\,C\,d\,f^3\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(3\,i\,b^2\,c\,C\,e\,f\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\,\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.$$

$$\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Big/\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(3\,i\,b^2\,B\,d\,e\,f\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\,\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.$$

$$\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Big/\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(9\,i\,a\,b\,C\,d\,e\,f\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\,\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.$$

$$\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Big/\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(3\,i\,a\,b\,c\,C\,f^2\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\,\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.$$

$$\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\Big/\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+\right.$$

$$\left(i\,A\,b^2\,d\,f^2\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\,\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.$$

$$\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\Big/\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+\right.$$

$$\left(2\,i\,a\,b\,B\,d\,f^2\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\,\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.$$

$$\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\Big/\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-\right.$$

$$\left(8\,i\,a^2\,C\,d\,f^2\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\,\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\Big/\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)\right)\right)$$

Problem 72: Result unnecessarily involves complex numbers and more than twice size of optimal antiderivative.

$$\int \frac{\sqrt{c+d\,x}\,\left(A+B\,x+C\,x^2\right)}{\left(a+b\,x\right)^{7/2}\sqrt{e+f\,x}}\,dx$$

Optimal (type 4, 1034 leaves, 9 steps):

$$\left(2\left(4\,a^3\,C\,d\,f-b^3\left(5\,B\,c\,e-2\,A\,d\,e-4\,A\,c\,f\right)+\right.\right.$$
$$\left.a\,b^2\left(10\,c\,C\,e+3\,B\,d\,e+B\,c\,f-6\,A\,d\,f\right)-a^2\,b\left(8\,C\,d\,e+6\,c\,C\,f-B\,d\,f\right)\right)\sqrt{c+d\,x}\,\sqrt{e+f\,x}\Big)\Big/$$
$$\left(15\,b^2\left(b\,c-a\,d\right)\left(b\,e-a\,f\right)^2\left(a+b\,x\right)^{3/2}\right)-\Big(2\left(8\,a^4\,C\,d^2\,f^2-a^3\,b\,d\,f\left(23\,C\,d\,e+13\,c\,C\,f-2\,B\,d\,f\right)-\right.$$
$$b^4\left(2\,A\,d^2\,e^2-c\,d\,e\left(5\,B\,e-3\,A\,f\right)-c^2\left(15\,C\,e^2-10\,B\,e\,f+8\,A\,f^2\right)\right)-$$
$$a^2\,b^2\left(d\,f\left(7\,B\,d\,e+2\,B\,c\,f-3\,A\,d\,f\right)-C\left(23\,d^2\,e^2+37\,c\,d\,e\,f+3\,c^2\,f^2\right)\right)-$$
$$\left.a\,b^3\left(d^2\,e\left(3\,B\,e-7\,A\,f\right)+2\,c^2\,f\left(5\,C\,e-B\,f\right)+c\,d\left(40\,C\,e^2-13\,f\left(B\,e-A\,f\right)\right)\right)\right)$$
$$\left.\sqrt{c+d\,x}\,\sqrt{e+f\,x}\right)\Big/\left(15\,b^2\left(b\,c-a\,d\right)^2\left(b\,e-a\,f\right)^3\sqrt{a+b\,x}\right)-$$
$$\frac{2\left(A\,b^2-a\left(b\,B-a\,C\right)\right)\left(c+d\,x\right)^{3/2}\sqrt{e+f\,x}}{5\,b\left(b\,c-a\,d\right)\left(b\,e-a\,f\right)\left(a+b\,x\right)^{5/2}}+$$
$$\frac{1}{15\,b^3\left(-b\,c+a\,d\right)^{3/2}\left(b\,e-a\,f\right)^3\sqrt{c+d\,x}\,\sqrt{\frac{b\left(e+f\,x\right)}{b\,e-a\,f}}}$$
$$2\sqrt{d}\,\left(8\,a^4\,C\,d^2\,f^2-a^3\,b\,d\,f\left(23\,C\,d\,e+13\,c\,C\,f-2\,B\,d\,f\right)-\right.$$
$$b^4\left(2\,A\,d^2\,e^2-c\,d\,e\left(5\,B\,e-3\,A\,f\right)-c^2\left(15\,C\,e^2-10\,B\,e\,f+8\,A\,f^2\right)\right)-$$
$$a^2\,b^2\left(d\,f\left(7\,B\,d\,e+2\,B\,c\,f-3\,A\,d\,f\right)-C\left(23\,d^2\,e^2+37\,c\,d\,e\,f+3\,c^2\,f^2\right)\right)-$$
$$\left.a\,b^3\left(d^2\,e\left(3\,B\,e-7\,A\,f\right)+2\,c^2\,f\left(5\,C\,e-B\,f\right)+c\,d\left(40\,C\,e^2-13\,f\left(B\,e-A\,f\right)\right)\right)\right)$$
$$\sqrt{\frac{b\left(c+d\,x\right)}{b\,c-a\,d}}\,\sqrt{e+f\,x}\,\text{EllipticE}\left[\text{ArcSin}\left[\frac{\sqrt{d}\,\sqrt{a+b\,x}}{\sqrt{-b\,c+a\,d}}\right],\frac{\left(b\,c-a\,d\right)f}{d\left(b\,e-a\,f\right)}\right]+$$
$$\left(2\sqrt{d}\,\left(d\,e-c\,f\right)\left(4\,a^3\,C\,d\,f-b^3\left(5\,B\,c\,e-2\,A\,d\,e-4\,A\,c\,f\right)+\right.\right.$$
$$\left.a\,b^2\left(10\,c\,C\,e+3\,B\,d\,e+B\,c\,f-6\,A\,d\,f\right)-a^2\,b\left(8\,C\,d\,e+6\,c\,C\,f-B\,d\,f\right)\right)$$
$$\left.\sqrt{\frac{b\left(c+d\,x\right)}{b\,c-a\,d}}\,\sqrt{\frac{b\left(e+f\,x\right)}{b\,e-a\,f}}\,\text{EllipticF}\left[\text{ArcSin}\left[\frac{\sqrt{d}\,\sqrt{a+b\,x}}{\sqrt{-b\,c+a\,d}}\right],\frac{\left(b\,c-a\,d\right)f}{d\left(b\,e-a\,f\right)}\right]\right)\Big/$$
$$\left(15\,b^3\left(-b\,c+a\,d\right)^{3/2}\left(b\,e-a\,f\right)^2\sqrt{c+d\,x}\,\sqrt{e+f\,x}\right)$$

Result (type 4, 9186 leaves):

$$\sqrt{a+b\,x}\,\sqrt{c+d\,x}\,\sqrt{e+f\,x}$$
$$\left(-\frac{2\left(A\,b^2-a\,b\,B+a^2\,C\right)}{5\,b^2\left(b\,e-a\,f\right)\left(a+b\,x\right)^3}-\left(2\left(5\,b^3\,B\,c\,e-10\,a\,b^2\,c\,C\,e+A\,b^3\,d\,e-6\,a\,b^2\,B\,d\,e+11\,a^2\,b\,C\,d\,e-\right.\right.\right.$$
$$\left.\left.\left.4\,A\,b^3\,c\,f-a\,b^2\,B\,c\,f+6\,a^2\,b\,c\,C\,f+3\,a\,A\,b^2\,d\,f+2\,a^2\,b\,B\,d\,f-7\,a^3\,C\,d\,f\right)\right)\Big/\right.$$
$$\left.\left(15\,b^2\left(b\,c-a\,d\right)\left(b\,e-a\,f\right)^2\left(a+b\,x\right)^2\right)-\frac{1}{15\,b^2\left(b\,c-a\,d\right)^2\left(b\,e-a\,f\right)^3\left(a+b\,x\right)}\right.$$

$$2\left(15\,b^4\,c^2\,C\,e^2+5\,b^4\,B\,c\,d\,e^2-40\,a\,b^3\,c\,C\,d\,e^2-2\,A\,b^4\,d^2\,e^2-3\,a\,b^3\,B\,d^2\,e^2+23\,a^2\,b^2\,C\,d^2\,e^2-10\,b^4\,B\,c^2\,e\,f-10\,a\,b^3\,c^2\,C\,e\,f-3\,A\,b^4\,c\,d\,e\,f+13\,a\,b^3\,B\,c\,d\,e\,f+37\,a^2\,b^2\,c\,C\,d\,e\,f+7\,a\,A\,b^3\,d^2\,e\,f-7\,a^2\,b^2\,B\,d^2\,e\,f-23\,a^3\,b\,C\,d^2\,e\,f+8\,A\,b^4\,c^2\,f^2+2\,a\,b^3\,B\,c^2\,f^2+3\,a^2\,b^2\,c^2\,C\,f^2-13\,a\,A\,b^3\,c\,d\,f^2-2\,a^2\,b^2\,B\,c\,d\,f^2-13\,a^3\,b\,c\,C\,d\,f^2+3\,a^2\,A\,b^2\,d^2\,f^2+2\,a^3\,b\,B\,d^2\,f^2+8\,a^4\,C\,d^2\,f^2\right)+$$

$$\frac{1}{15\,b^4\,(b\,c-a\,d)^2\,(b\,e-a\,f)^3}\,2\,d\left(\frac{1}{d\sqrt{c+\frac{(a+b\,x)\left(d-\frac{a\,d}{a+b\,x}\right)}{b}}\sqrt{e+\frac{(a+b\,x)\left(f-\frac{a\,f}{a+b\,x}\right)}{b}}}\right.$$

$$\left(15\,b^4\,c^2\,C\,e^2+5\,b^4\,B\,c\,d\,e^2-40\,a\,b^3\,c\,C\,d\,e^2-2\,A\,b^4\,d^2\,e^2-3\,a\,b^3\,B\,d^2\,e^2+23\,a^2\,b^2\,C\,d^2\,e^2-10\,b^4\,B\,c^2\,e\,f-10\,a\,b^3\,c^2\,C\,e\,f-3\,A\,b^4\,c\,d\,e\,f+13\,a\,b^3\,B\,c\,d\,e\,f+37\,a^2\,b^2\,c\,C\,d\,e\,f+7\,a\,A\,b^3\,d^2\,e\,f-7\,a^2\,b^2\,B\,d^2\,e\,f-23\,a^3\,b\,C\,d^2\,e\,f+8\,A\,b^4\,c^2\,f^2+2\,a\,b^3\,B\,c^2\,f^2+3\,a^2\,b^2\,c^2\,C\,f^2-13\,a\,A\,b^3\,c\,d\,f^2-2\,a^2\,b^2\,B\,c\,d\,f^2-13\,a^3\,b\,c\,C\,d\,f^2+3\,a^2\,A\,b^2\,d^2\,f^2+2\,a^3\,b\,B\,d^2\,f^2+8\,a^4\,C\,d^2\,f^2\right)$$

$$(a+b\,x)^{3/2}\left(d+\frac{b\,c}{a+b\,x}-\frac{a\,d}{a+b\,x}\right)\left(f+\frac{b\,e}{a+b\,x}-\frac{a\,f}{a+b\,x}\right)+$$

$$\frac{1}{d\sqrt{c+\frac{(a+b\,x)\left(d-\frac{a\,d}{a+b\,x}\right)}{b}}\sqrt{e+\frac{(a+b\,x)\left(f-\frac{a\,f}{a+b\,x}\right)}{b}}}(-b\,c+a\,d)\,(b\,e-a\,f)\,(a+b\,x)$$

$$\sqrt{\left(d+\frac{b\,c}{a+b\,x}-\frac{a\,d}{a+b\,x}\right)\left(f+\frac{b\,e}{a+b\,x}-\frac{a\,f}{a+b\,x}\right)}$$

$$\left(\left(\left(15\,i\,b^4\,c^2\,C\,e^2\,f\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.\right.$$

$$\left.\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}+\right.$$

$$\left(5\,i\,b^4\,B\,c\,d\,e^2\,f\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\frac{d\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\Big]-\text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\Big]\Bigg)\Bigg)\Big/$$

$$\Bigg(\sqrt{-\frac{-b\,c+a\,d}{d}}\ \left(-b\,e+a\,f\right)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\Bigg)-\Bigg(40\,i\,a\,b^3\,c$$

$$C\,d\,e^2\,f\sqrt{1-\frac{-b\,c+a\,d}{d\left(a+b\,x\right)}}\sqrt{1-\frac{-b\,e+a\,f}{f\left(a+b\,x\right)}}\Bigg(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],$$

$$\frac{d\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\Big]-\text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\Big]\Bigg)\Bigg)\Big/$$

$$\Bigg(\sqrt{-\frac{-b\,c+a\,d}{d}}\ \left(-b\,e+a\,f\right)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\Bigg)-$$

$$\Bigg(2\,i\,A\,b^4\,d^2\,e^2\,f\sqrt{1-\frac{-b\,c+a\,d}{d\left(a+b\,x\right)}}\sqrt{1-\frac{-b\,e+a\,f}{f\left(a+b\,x\right)}}\Bigg(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],$$

$$\frac{d\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\Big]-\text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\Big]\Bigg)\Bigg)\Big/$$

$$\Bigg(\sqrt{-\frac{-b\,c+a\,d}{d}}\ \left(-b\,e+a\,f\right)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\Bigg)-$$

$$\Bigg(3\,i\,a\,b^3\,B\,d^2\,e^2\,f\sqrt{1-\frac{-b\,c+a\,d}{d\left(a+b\,x\right)}}\sqrt{1-\frac{-b\,e+a\,f}{f\left(a+b\,x\right)}}\Bigg(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],$$

$$\frac{d\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\Big]-\text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\Big]\Bigg)\Bigg)\Big/$$

$$\Bigg(\sqrt{-\frac{-b\,c+a\,d}{d}}\ \left(-b\,e+a\,f\right)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\Bigg)+\Bigg(23\,i\,a^2\,b^2\,C$$

$$d^2\,e^2\,f\sqrt{1-\frac{-b\,c+a\,d}{d\left(a+b\,x\right)}}\ \sqrt{1-\frac{-b\,e+a\,f}{f\left(a+b\,x\right)}}\ \Bigg(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],$$

$$\frac{d\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\Big]-\text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\Big]\Bigg)\Bigg)\Big/$$

$$\Bigg(\sqrt{-\frac{-b\,c+a\,d}{d}}\ \left(-b\,e+a\,f\right)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\Bigg)-$$

$$\Bigg(10\,i\,b^4\,B\,c^2\,e\,f^2\sqrt{1-\frac{-b\,c+a\,d}{d\left(a+b\,x\right)}}\ \sqrt{1-\frac{-b\,e+a\,f}{f\left(a+b\,x\right)}}\ \Bigg(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],$$

$$\frac{d\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\Big]-\text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)\,f}\Big]\Bigg)\Bigg)\Big/$$

$$\Bigg(\sqrt{-\frac{-b\,c+a\,d}{d}}\ \left(-b\,e+a\,f\right)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\Bigg)-\Bigg(10\,i\,a\,b^3\,c^2$$

$$C\,e\,f^2\sqrt{1-\frac{-b\,c+a\,d}{d\left(a+b\,x\right)}}\ \sqrt{1-\frac{-b\,e+a\,f}{f\left(a+b\,x\right)}}\ \Bigg(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],$$

$$\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]-\text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]\Bigg)\Bigg)\Big/$$

$$\Bigg(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\sqrt{\Big(d+\frac{b\,c-a\,d}{a+b\,x}\Big)\Big(f+\frac{b\,e-a\,f}{a+b\,x}\Big)}\Bigg)-$$

$$\Bigg(3\,i\,A\,b^4\,c\,d\,e\,f^2\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\Bigg(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],$$

$$\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]-\text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]\Bigg)\Bigg)\Big/$$

$$\Bigg(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\sqrt{\Big(d+\frac{b\,c-a\,d}{a+b\,x}\Big)\Big(f+\frac{b\,e-a\,f}{a+b\,x}\Big)}\Bigg)+\Bigg(13\,i\,a\,b^3\,B$$

$$c\,d\,e\,f^2\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\Bigg(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],$$

$$\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]-\text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]\Bigg)\Bigg)\Big/$$

$$\Bigg(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\sqrt{\Big(d+\frac{b\,c-a\,d}{a+b\,x}\Big)\Big(f+\frac{b\,e-a\,f}{a+b\,x}\Big)}\Bigg)+\Bigg(37\,i\,a^2\,b^2\,c$$

$$C\,d\,e\,f^2\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\Bigg(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],$$

$$\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]-\text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]\Bigg)\Bigg)\Big/$$

$$\Bigg(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\sqrt{\Big(d+\frac{b\,c-a\,d}{a+b\,x}\Big)\Big(f+\frac{b\,e-a\,f}{a+b\,x}\Big)}\Bigg)+$$

$$\Bigg(7\,i\,a\,A\,b^3\,d^2\,e\,f^2\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\ \sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\Bigg(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],$$

$$\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]-\text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]\Bigg)\Bigg)\Big/$$

$$\Bigg(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\sqrt{\Big(d+\frac{b\,c-a\,d}{a+b\,x}\Big)\Big(f+\frac{b\,e-a\,f}{a+b\,x}\Big)}\Bigg)-\Bigg(7\,i\,a^2\,b^2\,B$$

$$d^2\,e\,f^2\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\ \sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\Bigg(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],$$

$$\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]-\text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]\Bigg)\Bigg)\Big/$$

$$\Bigg(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\sqrt{\Big(d+\frac{b\,c-a\,d}{a+b\,x}\Big)\Big(f+\frac{b\,e-a\,f}{a+b\,x}\Big)}\Bigg)-$$

$$\Bigg(23\,i\,a^3\,b\,C\,d^2\,e\,f^2\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\ \sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}$$

$$\left(\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\right.\right.$$

$$\left.\left.\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(8\,i\,A\,b^4\,c^2\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(2\,i\,a\,b^3\,B\,c^2\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(3\,i\,a^2\,b^2\,c^2\,C\,f^3\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(13\,i\,a\,A\,b^3\,c\,d\,f^3\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(2\,i\,a^2\,b^2\,B\,c\,d\,f^3\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(13\,i\,a^3\,b\,c\,C\,d\,f^3\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(3\,i\,a^2\,A\,b^2\,d^2\,f^3\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(2\,i\,a^3\,b\,B\,d^2\,f^3\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(8\,i\,a^4\,C\,d^2\,f^3\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(15\,i\,b^3\,c\,C\,d\,e^2\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\right.$$

$$\left.\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+\left(15\,i\,a\,b^2\,C\,d^2\,e^2\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\right.$$

$$\left.\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\,\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+\left(5\,i\,b^3\,B\,c\,d\,e\,f\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\right.$$

$$\left.\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\,\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)+\left(20 i a b^2 c C d e f \sqrt{1-\frac{-b c+a d}{d (a+b x)}}\right.$$

$$\left.\sqrt{1-\frac{-b e+a f}{f (a+b x)}}\ \text{EllipticF}\left[i\ \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\ \frac{d (-b e+a f)}{(-b c+a d) f}\right]\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)+\left(i A b^3 d^2 e f \sqrt{1-\frac{-b c+a d}{d (a+b x)}}\right.$$

$$\left.\sqrt{1-\frac{-b e+a f}{f (a+b x)}}\ \text{EllipticF}\left[i\ \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\ \frac{d (-b e+a f)}{(-b c+a d) f}\right]\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)-\left(6 i a b^2 B d^2 e f \sqrt{1-\frac{-b c+a d}{d (a+b x)}}\right.$$

$$\left.\sqrt{1-\frac{-b e+a f}{f (a+b x)}}\ \text{EllipticF}\left[i\ \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\ \frac{d (-b e+a f)}{(-b c+a d) f}\right]\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)-\left(19 i a^2 b C d^2 e f \sqrt{1-\frac{-b c+a d}{d (a+b x)}}\right.$$

$$\left.\sqrt{1-\frac{-b e+a f}{f (a+b x)}}\ \text{EllipticF}\left[i\ \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\ \frac{d (-b e+a f)}{(-b c+a d) f}\right]\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)-\left(4 i A b^3 c d f^2 \sqrt{1-\frac{-b c+a d}{d (a+b x)}}\right.$$

$$\left.\sqrt{1-\frac{-b e+a f}{f (a+b x)}}\ \text{EllipticF}\left[i \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right], \frac{d (-b e+a f)}{(-b c+a d) f}\right]\right) /$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)-\left(i a b^2 B c d f^2 \sqrt{1-\frac{-b c+a d}{d (a+b x)}}\right.$$

$$\left.\sqrt{1-\frac{-b e+a f}{f (a+b x)}}\ \text{EllipticF}\left[i \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right], \frac{d (-b e+a f)}{(-b c+a d) f}\right]\right) /$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)-\left(9 i a^2 b c C d f^2 \sqrt{1-\frac{-b c+a d}{d (a+b x)}}\right.$$

$$\left.\sqrt{1-\frac{-b e+a f}{f (a+b x)}}\ \text{EllipticF}\left[i \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right], \frac{d (-b e+a f)}{(-b c+a d) f}\right]\right) /$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)+\left(3 i a A b^2 d^2 f^2 \sqrt{1-\frac{-b c+a d}{d (a+b x)}}\right.$$

$$\left.\sqrt{1-\frac{-b e+a f}{f (a+b x)}}\ \text{EllipticF}\left[i \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right], \frac{d (-b e+a f)}{(-b c+a d) f}\right]\right) /$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)+$$

$$\left(2\,i\,a^2\,b\,B\,d^2\,f^2\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\,\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.$$

$$\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\Big/\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+\right.$$

$$\left(8\,i\,a^3\,C\,d^2\,f^2\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\,\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\Big/\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)\right)\right)$$

Problem 73: Result unnecessarily involves complex numbers and more than twice size of optimal antiderivative.

$$\int\frac{(a+b\,x)^{3/2}\,(A+B\,x+C\,x^2)}{\sqrt{c+d\,x}\,\sqrt{e+f\,x}}\,dx$$

Optimal (type 4, 838 leaves, 9 steps):

$$-\frac{1}{105\,b\,d^3\,f^3}2\left(5\,b\,d\,f\left(5\,b\,c\,C\,e+a\,C\,d\,e+a\,c\,C\,f-7\,A\,b\,d\,f\right)+\left(3\,a\,d\,f-4\,b\left(d\,e+c\,f\right)\right)\left(2\,a\,C\,d\,f-b\left(7\,B\,d\,f-6\,C\left(d\,e+c\,f\right)\right)\right)\right)\sqrt{a+b\,x}\,\sqrt{c+d\,x}\,\sqrt{e+f\,x}-\frac{2\left(2\,a\,C\,d\,f-b\left(7\,B\,d\,f-6\,C\left(d\,e+c\,f\right)\right)\right)\left(a+b\,x\right)^{3/2}\sqrt{c+d\,x}\,\sqrt{e+f\,x}}{35\,b\,d^2\,f^2}+\frac{2\,C\left(a+b\,x\right)^{5/2}\sqrt{c+d\,x}\,\sqrt{e+f\,x}}{7\,b\,d\,f}-\frac{1}{105\,b^2\,d^{7/2}\,f^4\,\sqrt{c+d\,x}\,\sqrt{\frac{b\left(e+f\,x\right)}{b\,e-a\,f}}}2\sqrt{-b\,c+a\,d}\left(3\,b\,d\,f\left(5\,a\,d\,f\left(5\,b\,c\,C\,e+a\,C\,d\,e+a\,c\,C\,f-7\,A\,b\,d\,f\right)-\left(3\,b\,c\,e+a\,d\,e+a\,c\,f\right)\left(2\,a\,C\,d\,f-b\left(7\,B\,d\,f-6\,C\left(d\,e+c\,f\right)\right)\right)\right)+2\left(\frac{a\,d\,f}{2}-b\left(d\,e+c\,f\right)\right)\left(5\,b\,d\,f\left(5\,b\,c\,C\,e+a\,C\,d\,e+a\,c\,C\,f-7\,A\,b\,d\,f\right)+\left(3\,a\,d\,f-4\,b\left(d\,e+c\,f\right)\right)\left(2\,a\,C\,d\,f-b\left(7\,B\,d\,f-6\,C\left(d\,e+c\,f\right)\right)\right)\right)\right)\sqrt{\frac{b\left(c+d\,x\right)}{b\,c-a\,d}}\,\sqrt{e+f\,x}\,\text{EllipticE}\left[\text{ArcSin}\left[\frac{\sqrt{d}\,\sqrt{a+b\,x}}{\sqrt{-b\,c+a\,d}}\right],\frac{\left(b\,c-a\,d\right)f}{d\left(b\,e-a\,f\right)}\right]-\frac{1}{105\,b^2\,d^{7/2}\,f^4\,\sqrt{c+d\,x}\,\sqrt{e+f\,x}}2\sqrt{-b\,c+a\,d}\left(b\,e-a\,f\right)\left(3\,a^2\,C\,d^2\,f^2\left(d\,e-c\,f\right)-3\,a\,b\,d\,f\left(7\,d\,f\left(3\,B\,d\,e+2\,B\,c\,f-5\,A\,d\,f\right)-C\left(16\,d^2\,e^2+8\,c\,d\,e\,f+11\,c^2\,f^2\right)\right)-b^2\left(C\left(48\,d^3\,e^3+16\,c\,d^2\,e^2\,f+17\,c^2\,d\,e\,f^2+24\,c^3\,f^3\right)+7\,d\,f\left(5\,A\,d\,f\left(2\,d\,e+c\,f\right)-B\left(8\,d^2\,e^2+3\,c\,d\,e\,f+4\,c^2\,f^2\right)\right)\right)\right)\sqrt{\frac{b\left(c+d\,x\right)}{b\,c-a\,d}}\,\sqrt{\frac{b\left(e+f\,x\right)}{b\,e-a\,f}}\,\text{EllipticF}\left[\text{ArcSin}\left[\frac{\sqrt{d}\,\sqrt{a+b\,x}}{\sqrt{-b\,c+a\,d}}\right],\frac{\left(b\,c-a\,d\right)f}{d\left(b\,e-a\,f\right)}\right]$$

Result (type 4, 7300 leaves):

$$\sqrt{a+b\,x}\,\sqrt{c+d\,x}\,\sqrt{e+f\,x}\left(\frac{1}{105\,b\,d^3\,f^3}2\left(24\,b^2\,C\,d^2\,e^2+23\,b^2\,c\,C\,d\,e\,f-28\,b^2\,B\,d^2\,e\,f-33\,a\,b\,C\,d^2\,e\,f+24\,b^2\,c^2\,C\,f^2-28\,b^2\,B\,c\,d\,f^2-33\,a\,b\,c\,C\,d\,f^2+35\,A\,b^2\,d^2\,f^2+42\,a\,b\,B\,d^2\,f^2+3\,a^2\,C\,d^2\,f^2\right)+\frac{2\left(-6\,b\,C\,d\,e-6\,b\,c\,C\,f+7\,b\,B\,d\,f+8\,a\,C\,d\,f\right)x}{35\,d^2\,f^2}+\frac{2\,b\,C\,x^2}{7\,d\,f}\right)+\frac{1}{105\,b^3\,d^3\,f^3}2\left(\frac{1}{d\,f\sqrt{c+\frac{\left(a+b\,x\right)\left(d-\frac{a\,d}{a+b\,x}\right)}{b}}\,\sqrt{e+\frac{\left(a+b\,x\right)\left(f-\frac{a\,f}{a+b\,x}\right)}{b}}}\left(-48\,b^3\,C\,d^3\,e^3-40\,b^3\,c\,C\,d^2\,e^2\,f+56\,b^3\,B\,d^3\,e^2\,f+72\,a\,b^2\,C\,d^3\,e^2\,f-40\,b^3\,c^2\,C\,d\,e\,f^2+49\,b^3\,B\,c\,d^2\,e\,f^2+62\,a\,b^2\,c\,C\,d^2\,e\,f^2-70\,A\,b^3\,d^3\,e\,f^2-91\,a\,b^2\,B\,d^3\,e\,f^2-12\,a^2\,b\,C\,d^3\,e\,f^2-48\,b^3\,c^3\,C\,f^3+56\,b^3\,B\,c^2\,d\,f^3+72\,a\,b^2\,c^2\,C\,d\,f^3-70\,A\,b^3\,c\,d^2\,f^3-91\,a\,b^2\,B\,c\,d^2\,f^3-12\,a^2\,b\,c\,C\,d^2\,f^3+140\,a\,A\,b^2\,d^3\,f^3+21\,a^2\,b\,B\,d^3\,f^3-6\,a^3\,C\,d^3\,f^3\right)\left(a+b\,x\right)^{3/2}$$

$$\left(d+\frac{b\,c}{a+b\,x}-\frac{a\,d}{a+b\,x}\right)\left(f+\frac{b\,e}{a+b\,x}-\frac{a\,f}{a+b\,x}\right)+\frac{1}{d\,f\sqrt{c+\frac{(a+b\,x)\left(d-\frac{a\,d}{a+b\,x}\right)}{b}}\sqrt{e+\frac{(a+b\,x)\left(f-\frac{a\,f}{a+b\,x}\right)}{b}}}$$

$$\left(-b\,c+a\,d\right)\left(-b\,e+a\,f\right)\left(a+b\,x\right)\sqrt{\left(d+\frac{b\,c}{a+b\,x}-\frac{a\,d}{a+b\,x}\right)\left(f+\frac{b\,e}{a+b\,x}-\frac{a\,f}{a+b\,x}\right)}$$

$$\left(\left(\left(48\,i\,b^3\,C\,d^3\,e^3\,f\sqrt{1-\frac{-b\,c+a\,d}{d\left(a+b\,x\right)}}\sqrt{1-\frac{-b\,e+a\,f}{f\left(a+b\,x\right)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.\right.$$

$$\left.\left.\left.\left.\frac{d\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\left(-b\,e+a\,f\right)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+\left(40\,i\,b^3\,c\,C\right.$$

$$d^2\,e^2\,f^2\sqrt{1-\frac{-b\,c+a\,d}{d\left(a+b\,x\right)}}\sqrt{1-\frac{-b\,e+a\,f}{f\left(a+b\,x\right)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.$$

$$\left.\left.\left.\frac{d\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\left(-b\,e+a\,f\right)}{\left(-b\,c+a\,d\right)f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\left(-b\,e+a\,f\right)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(56\,i\,b^3\,B\,d^3\,e^2\,f^2\sqrt{1-\frac{-b\,c+a\,d}{d\left(a+b\,x\right)}}\sqrt{1-\frac{-b\,e+a\,f}{f\left(a+b\,x\right)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big] - \text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]\Bigg)\Bigg)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right) - \Bigg(72\,i\,a\,b^2\,C$$

$$d^3\,e^2\,f^2\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\ \sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\ \Bigg(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],$$

$$\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big] - \text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]\Bigg)\Bigg)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right) + \Bigg(40\,i\,b^3\,c^2\,C$$

$$d\,e\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\ \sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\ \Bigg(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],$$

$$\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big] - \text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]\Bigg)\Bigg)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right) - \Bigg(49\,i\,b^3\,B\,c$$

$$d^2\,e\,f^3\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.$$

$$\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-\left(62\,i\,a\,b^2\,c\,C\right.$$

$$d^2\,e\,f^3\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.$$

$$\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(70\,i\,A\,b^3\,d^3\,e\,f^3\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+\left(91\,i\,a\,b^2\,B\right.$$

$$d^3 e f^3 \sqrt{1-\frac{-b c+a d}{d (a+b x)}} \sqrt{1-\frac{-b e+a f}{f (a+b x)}} \left(\text{EllipticE}\left[i \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}} \right], \frac{d (-b e+a f)}{(-b c+a d) f} \right] - \text{EllipticF}\left[i \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}} \right], \frac{d (-b e+a f)}{(-b c+a d) f} \right] \right) \Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}} (-b e+a f) \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)} \right) +$$

$$\left(12 i a^2 b C d^3 e f^3 \sqrt{1-\frac{-b c+a d}{d (a+b x)}} \sqrt{1-\frac{-b e+a f}{f (a+b x)}} \right.$$

$$\left(\text{EllipticE}\left[i \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}} \right], \frac{d (-b e+a f)}{(-b c+a d) f} \right] - \right.$$

$$\left. \left. \text{EllipticF}\left[i \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}} \right], \frac{d (-b e+a f)}{(-b c+a d) f} \right] \right) \Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}} (-b e+a f) \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)} \right) +$$

$$\left(48 i b^3 c^3 C f^4 \sqrt{1-\frac{-b c+a d}{d (a+b x)}} \sqrt{1-\frac{-b e+a f}{f (a+b x)}} \left(\text{EllipticE}\left[i \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}} \right], \frac{d (-b e+a f)}{(-b c+a d) f} \right] - \text{EllipticF}\left[i \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}} \right], \frac{d (-b e+a f)}{(-b c+a d) f} \right] \right) \Big/ \right.$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ (-b e+a f)\sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)-$$

$$\left(56 i b^3 B c^2 d f^4\sqrt{1-\frac{-b c+a d}{d (a+b x)}}\sqrt{1-\frac{-b e+a f}{f (a+b x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d (-b e+a f)}{(-b c+a d) f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\frac{d (-b e+a f)}{(-b c+a d) f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ (-b e+a f)\sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)-$$

$$\left(72 i a b^2 c^2 C d f^4\sqrt{1-\frac{-b c+a d}{d (a+b x)}}\sqrt{1-\frac{-b e+a f}{f (a+b x)}}\right.$$

$$\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\frac{d (-b e+a f)}{(-b c+a d) f}\right]-\right.$$

$$\left.\left.\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\frac{d (-b e+a f)}{(-b c+a d) f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ (-b e+a f)\sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)+$$

$$\left(70 i A b^3 c d^2 f^4\sqrt{1-\frac{-b c+a d}{d (a+b x)}}\sqrt{1-\frac{-b e+a f}{f (a+b x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\right.\right.\right.$$

$$\frac{d\left(-b e+a f\right)}{\left(-b c+a d\right) f}\Big] - \text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\Big], \frac{d\left(-b e+a f\right)}{\left(-b c+a d\right) f}\Big]\Bigg)\Bigg) \Big/$$

$$\Bigg(\sqrt{-\frac{-b c+a d}{d}}\,\left(-b e+a f\right)\sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\Bigg) +$$

$$\Bigg(91\,i\,a\,b^2\,B\,c\,d^2\,f^4\sqrt{1-\frac{-b c+a d}{d\left(a+b x\right)}}\sqrt{1-\frac{-b e+a f}{f\left(a+b x\right)}}$$

$$\Bigg(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\Big], \frac{d\left(-b e+a f\right)}{\left(-b c+a d\right) f}\Big] -$$

$$\text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\Big], \frac{d\left(-b e+a f\right)}{\left(-b c+a d\right) f}\Big]\Bigg)\Bigg) \Big/$$

$$\Bigg(\sqrt{-\frac{-b c+a d}{d}}\,\left(-b e+a f\right)\sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\Bigg) +$$

$$\Bigg(12\,i\,a^2\,b\,c\,C\,d^2\,f^4\sqrt{1-\frac{-b c+a d}{d\left(a+b x\right)}}\sqrt{1-\frac{-b e+a f}{f\left(a+b x\right)}}$$

$$\Bigg(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\Big], \frac{d\left(-b e+a f\right)}{\left(-b c+a d\right) f}\Big] -$$

$$\text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\Big], \frac{d\left(-b e+a f\right)}{\left(-b c+a d\right) f}\Big]\Bigg)\Bigg) \Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ (-b e+a f)\sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)-$$

$$\left(140\,i\,a\,A\,b^2\,d^3\,f^4\sqrt{1-\frac{-b c+a d}{d\,(a+b x)}}\sqrt{1-\frac{-b e+a f}{f\,(a+b x)}}\right.$$

$$\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\frac{d\,(-b e+a f)}{(-b c+a d)\,f}\right]-\right.$$

$$\left.\left.\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\frac{d\,(-b e+a f)}{(-b c+a d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ (-b e+a f)\sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)-$$

$$\left(21\,i\,a^2\,b\,B\,d^3\,f^4\sqrt{1-\frac{-b c+a d}{d\,(a+b x)}}\sqrt{1-\frac{-b e+a f}{f\,(a+b x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b e+a f)}{(-b c+a d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\frac{d\,(-b e+a f)}{(-b c+a d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ (-b e+a f)\sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right)+$$

$$\left(6\,i\,a^3\,C\,d^3\,f^4\sqrt{1-\frac{-b c+a d}{d\,(a+b x)}}\sqrt{1-\frac{-b e+a f}{f\,(a+b x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\right.\right.\right.$$

$$\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big] - \text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]\Bigg)\Bigg)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right) -$$

$$\left(24\,i\,b^2\,C\,d^3\,e^2\,f\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\right.$$

$$\left.\text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right) - \left(23\,i\,b^2\,c\,C\,d^2\,e\,f^2\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\right.$$

$$\left.\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\ \text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right) + \left(28\,i\,b^2\,B\,d^3\,e\,f^2\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\right.$$

$$\left.\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\ \text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right) + \left(15\,i\,a\,b\,C\,d^3\,e\,f^2\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\right.$$

$$\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\ \text{EllipticF}\left[i\ \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\Bigg)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ \sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-\Bigg(24\,i\,b^2\,c^2\,C\,d\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}$$

$$\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\ \text{EllipticF}\left[i\ \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\Bigg)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ \sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+\Bigg(28\,i\,b^2\,B\,c\,d^2\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}$$

$$\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\ \text{EllipticF}\left[i\ \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\Bigg)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ \sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+\Bigg(15\,i\,a\,b\,c\,C\,d^2\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}$$

$$\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\ \text{EllipticF}\left[i\ \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\Bigg)\Bigg/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ \sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\Bigg(35\,i\,A\,b^2\,d^3\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\ \sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\ \text{EllipticF}\left[i\ \text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.$$

$$\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]\Big/\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(21\,i\,a\,b\,B\,d^3\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\,\text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\right.$$

$$\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]\Big/\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(6\,i\,a^2\,C\,d^3\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\,\text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\right.$$

$$\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]\Big/\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)\right)\right)$$

Problem 74: Result unnecessarily involves complex numbers and more than twice size of optimal antiderivative.

$$\int\frac{\sqrt{a+b\,x}\,\left(A+B\,x+C\,x^2\right)}{\sqrt{c+d\,x}\,\sqrt{e+f\,x}}\,dx$$

Optimal (type 4, 528 leaves, 8 steps):

$$-\frac{2\left(2\,a\,C\,d\,f-b\left(5\,B\,d\,f-4\,C\left(d\,e+c\,f\right)\right)\right)\sqrt{a+b\,x}\,\sqrt{c+d\,x}\,\sqrt{e+f\,x}}{15\,b\,d^2\,f^2}+$$

$$\frac{2\,C\left(a+b\,x\right)^{3/2}\sqrt{c+d\,x}\,\sqrt{e+f\,x}}{5\,b\,d\,f}-\left(2\sqrt{-b\,c+a\,d}\,\left(3\,b\,d\,f\left(3\,b\,c\,C\,e+a\,C\,d\,e+a\,c\,C\,f-5\,A\,b\,d\,f\right)+\left(a\,d\,f-2\,b\left(d\,e+c\,f\right)\right)\left(2\,a\,C\,d\,f-b\left(5\,B\,d\,f-4\,C\left(d\,e+c\,f\right)\right)\right)\right)\right.$$

$$\left.\sqrt{\frac{b\left(c+d\,x\right)}{b\,c-a\,d}}\,\sqrt{e+f\,x}\,\text{EllipticE}\left[\text{ArcSin}\left[\frac{\sqrt{d}\,\sqrt{a+b\,x}}{\sqrt{-b\,c+a\,d}}\right],\frac{\left(b\,c-a\,d\right)f}{d\left(b\,e-a\,f\right)}\right]\right)\Bigg/$$

$$\left(15\,b^2\,d^{5/2}\,f^3\,\sqrt{c+d\,x}\,\sqrt{\frac{b\left(e+f\,x\right)}{b\,e-a\,f}}\right)-\left(2\sqrt{-b\,c+a\,d}\,\left(b\,e-a\,f\right)\right.$$

$$\left(a\,C\,d\,f\left(d\,e-c\,f\right)-b\left(5\,d\,f\left(2\,B\,d\,e+B\,c\,f-3\,A\,d\,f\right)-C\left(8\,d^2\,e^2+3\,c\,d\,e\,f+4\,c^2\,f^2\right)\right)\right)$$

$$\left.\sqrt{\frac{b\left(c+d\,x\right)}{b\,c-a\,d}}\,\sqrt{\frac{b\left(e+f\,x\right)}{b\,e-a\,f}}\,\text{EllipticF}\left[\text{ArcSin}\left[\frac{\sqrt{d}\,\sqrt{a+b\,x}}{\sqrt{-b\,c+a\,d}}\right],\frac{\left(b\,c-a\,d\right)f}{d\left(b\,e-a\,f\right)}\right]\right)\Bigg/$$

$$\left(15\,b^2\,d^{5/2}\,f^3\,\sqrt{c+d\,x}\,\sqrt{e+f\,x}\right)$$

Result (type 4, 3657 leaves) :

$$\sqrt{a+b\,x}\,\sqrt{c+d\,x}\left(\frac{2\left(-4\,b\,C\,d\,e-4\,b\,c\,C\,f+5\,b\,B\,d\,f+a\,C\,d\,f\right)}{15\,b\,d^2\,f^2}+\frac{2\,C\,x}{5\,d\,f}\right)\sqrt{e+f\,x}\,-$$

$$\frac{1}{15\,b^3\,d^2\,f^2}2\left(\left(\left(-8\,b^2\,C\,d^2\,e^2-7\,b^2\,c\,C\,d\,e\,f+10\,b^2\,B\,d^2\,e\,f+3\,a\,b\,C\,d^2\,e\,f-8\,b^2\,c^2\,C\,f^2+10\,b^2\,B\,c\,d\,f^2+\right.\right.\right.$$

$$\left.\left.\left.3\,a\,b\,c\,C\,d\,f^2-15\,A\,b^2\,d^2\,f^2-5\,a\,b\,B\,d^2\,f^2+2\,a^2\,C\,d^2\,f^2\right)\left(a+b\,x\right)^{3/2}\left(d+\frac{b\,c}{a+b\,x}-\frac{a\,d}{a+b\,x}\right)\right.\right.$$

$$\left.\left.\left(f+\frac{b\,e}{a+b\,x}-\frac{a\,f}{a+b\,x}\right)\right)\Bigg/\left(d\,f\sqrt{c+\frac{\left(a+b\,x\right)\left(d-\frac{a\,d}{a+b\,x}\right)}{b}}\,\sqrt{e+\frac{\left(a+b\,x\right)\left(f-\frac{a\,f}{a+b\,x}\right)}{b}}\right)+\right.$$

$$\frac{1}{d\,f\sqrt{c+\frac{(a+b\,x)\left(d-\frac{a\,d}{a+b\,x}\right)}{b}}\,\sqrt{e+\frac{(a+b\,x)\left(f-\frac{a\,f}{a+b\,x}\right)}{b}}}\left(-b\,c+a\,d\right)\left(-b\,e+a\,f\right)$$

$$\left(a+b\,x\right)\sqrt{\left(d+\frac{b\,c}{a+b\,x}-\frac{a\,d}{a+b\,x}\right)\left(f+\frac{b\,e}{a+b\,x}-\frac{a\,f}{a+b\,x}\right)}$$

$$\left(\left(8\,i\,b^2\,C\,d^2\,e^2\,f\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(7\,i\,b^2\,c\,C\,d\,e\,f^2\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(10\,i\,b^2\,B\,d^2\,e\,f^2\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(3\,i\,a\,b\,C\,d^2\,e\,f^2\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(8\,i\,b^2\,c^2\,C\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(10\,i\,b^2\,B\,c\,d\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(3\,i\,a\,b\,c\,C\,d\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(15\,i\,A\,b^2\,d^2\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(5\,i\,a\,b\,B\,d^2\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(2\,i\,a^2\,C\,d^2\,f^3\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(4\,i\,b\,C\,d^2\,e\,f\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\,\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.$$

$$\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Big/\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(4\,i\,b\,c\,C\,d\,f^2\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\,\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.$$

$$\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Big/\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(5\,i\,b\,B\,d^2\,f^2\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\,\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.$$

$$\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Big/\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(2\,i\,a\,C\,d^2\,f^2\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\,\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Big/\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)$$

Problem 75: Result unnecessarily involves imaginary or complex numbers.

$$\int\frac{A+B\,x+C\,x^2}{\sqrt{a+b\,x}\,\sqrt{c+d\,x}\,\sqrt{e+f\,x}}\,dx$$

Optimal (type 4, 387 leaves, 7 steps):

$$\frac{2\,C\,\sqrt{a+b\,x}\,\sqrt{c+d\,x}\,\sqrt{e+f\,x}}{3\,b\,d\,f}-$$

$$\left(2\,\sqrt{-b\,c+a\,d}\,\left(2\,a\,C\,d\,f-b\,(3\,B\,d\,f-2\,C\,(d\,e+c\,f))\right)\sqrt{\frac{b\,(c+d\,x)}{b\,c-a\,d}}\,\sqrt{e+f\,x}\right.$$

$$\left.\text{EllipticE}\left[\text{ArcSin}\left[\frac{\sqrt{d}\,\sqrt{a+b\,x}}{\sqrt{-b\,c+a\,d}}\right],\ \frac{(b\,c-a\,d)\,f}{d\,(b\,e-a\,f)}\right]\right)\Big/\left(3\,b^2\,d^{3/2}\,f^2\,\sqrt{c+d\,x}\,\sqrt{\frac{b\,(e+f\,x)}{b\,e-a\,f}}\right)+$$

$$\left(2\,\sqrt{-b\,c+a\,d}\,\left(a\,C\,f\,(d\,e-c\,f)-b\,(3\,d\,f\,(B\,e-A\,f)-C\,e\,(2\,d\,e+c\,f))\right)\sqrt{\frac{b\,(c+d\,x)}{b\,c-a\,d}}\,\sqrt{\frac{b\,(e+f\,x)}{b\,e-a\,f}}\right.$$

$$\left.\text{EllipticF}\left[\text{ArcSin}\left[\frac{\sqrt{d}\,\sqrt{a+b\,x}}{\sqrt{-b\,c+a\,d}}\right],\ \frac{(b\,c-a\,d)\,f}{d\,(b\,e-a\,f)}\right]\right)\Big/\left(3\,b^2\,d^{3/2}\,f^2\,\sqrt{c+d\,x}\,\sqrt{e+f\,x}\right)$$

Result (type 4, 418 leaves):

$$\frac{1}{3\,b^3\,d^2\,f^2\,\sqrt{c+d\,x}\,\sqrt{e+f\,x}}\sqrt{a+b\,x}$$

$$\left(2\,b^2\,C\,d\,f\,(c+d\,x)\,(e+f\,x)-\frac{2\,b^2\,(-3\,b\,B\,d\,f+2\,a\,C\,d\,f+2\,b\,C\,(d\,e+c\,f))\,(c+d\,x)\,(e+f\,x)}{a+b\,x}+\right.$$

$$2\,i\,\sqrt{-a+\frac{b\,c}{d}}\,d\,f\,(3\,b\,B\,d\,f-2\,a\,C\,d\,f-2\,b\,C\,(d\,e+c\,f))\,\sqrt{a+b\,x}\,\sqrt{\frac{b\,(c+d\,x)}{d\,(a+b\,x)}}$$

$$\sqrt{\frac{b\,(e+f\,x)}{f\,(a+b\,x)}}\,\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-a+\frac{b\,c}{d}}}{\sqrt{a+b\,x}}\right],\frac{b\,d\,e-a\,d\,f}{b\,c\,f-a\,d\,f}\right]+\frac{1}{\sqrt{-a+\frac{b\,c}{d}}}$$

$$2\,i\,b\,f\,(a\,C\,d\,(-d\,e+c\,f)+b\,(2\,c^2\,C\,f+3\,A\,d^2\,f+c\,d\,(C\,e-3\,B\,f)))\,\sqrt{a+b\,x}$$

$$\left.\sqrt{\frac{b\,(c+d\,x)}{d\,(a+b\,x)}}\,\sqrt{\frac{b\,(e+f\,x)}{f\,(a+b\,x)}}\,\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-a+\frac{b\,c}{d}}}{\sqrt{a+b\,x}}\right],\frac{b\,d\,e-a\,d\,f}{b\,c\,f-a\,d\,f}\right]\right)$$

Problem 76: Result unnecessarily involves imaginary or complex numbers.

$$\int\frac{A+B\,x+C\,x^2}{(a+b\,x)^{3/2}\,\sqrt{c+d\,x}\,\sqrt{e+f\,x}}\,dx$$

Optimal (type 4, 422 leaves, 7 steps):

$$-\frac{2\left(A b^2-a\left(b B-a C\right)\right)\sqrt{c+d x}\,\sqrt{e+f x}}{b\left(b c-a d\right)\left(b e-a f\right)\sqrt{a+b x}}-$$

$$\left(2\left(2 a^2 C d f+b^2\left(c C e+A d f\right)-a b\left(C d e+c C f+B d f\right)\right)\right.$$

$$\left.\sqrt{\frac{b\left(c+d x\right)}{b c-a d}}\,\sqrt{e+f x}\,\text{EllipticE}\left[\text{ArcSin}\left[\frac{\sqrt{d}\,\sqrt{a+b x}}{\sqrt{-b c+a d}}\right],\frac{\left(b c-a d\right) f}{d\left(b e-a f\right)}\right]\right)\Big/$$

$$\left(b^2\sqrt{d}\,\sqrt{-b c+a d}\,f\left(b e-a f\right)\sqrt{c+d x}\,\sqrt{\frac{b\left(e+f x\right)}{b e-a f}}\right)-$$

$$\left(2\left(a C\left(d e-c f\right)-b\left(c C e-B c f+A d f\right)\right)\sqrt{\frac{b\left(c+d x\right)}{b c-a d}}\,\sqrt{\frac{b\left(e+f x\right)}{b e-a f}}\right.$$

$$\left.\text{EllipticF}\left[\text{ArcSin}\left[\frac{\sqrt{d}\,\sqrt{a+b x}}{\sqrt{-b c+a d}}\right],\frac{\left(b c-a d\right) f}{d\left(b e-a f\right)}\right]\right)\Big/\left(b^2\sqrt{d}\,\sqrt{-b c+a d}\,f\sqrt{c+d x}\,\sqrt{e+f x}\right)$$

Result (type 4, 477 leaves) :

$$\frac{1}{b^3 (b c - a d) (b e - a f) \sqrt{a + b x} \sqrt{c + d x} \sqrt{e + f x}}$$

$$2 \left(-b^2 \left(A b^2 + a \left(-b B + a C \right) \right) (c + d x) (e + f x) + \frac{1}{d f} \right.$$

$$b^2 \left(2 a^2 C d f + b^2 \left(c C e + A d f \right) - a b \left(C d e + c C f + B d f \right) \right) (c + d x) (e + f x) + \frac{1}{\sqrt{-a + \frac{b c}{d}}\, d}$$

$$i (b c - a d) \left(2 a^2 C d f + b^2 \left(c C e + A d f \right) - a b \left(C d e + c C f + B d f \right) \right) (a + b x)^{3/2}$$

$$\sqrt{\frac{b (c + d x)}{d (a + b x)}} \sqrt{\frac{b (e + f x)}{f (a + b x)}}\, \text{EllipticE}\left[i\, \text{ArcSinh}\left[\frac{\sqrt{-a + \frac{b c}{d}}}{\sqrt{a + b x}} \right], \frac{b d e - a d f}{b c f - a d f} \right] +$$

$$\frac{1}{\sqrt{-a + \frac{b c}{d}}\, d} i b (-b c + a d) \left(a C (d e - c f) + b \left(c C e - B d e + A d f \right) \right) (a + b x)^{3/2}$$

$$\left. \sqrt{\frac{b (c + d x)}{d (a + b x)}} \sqrt{\frac{b (e + f x)}{f (a + b x)}}\, \text{EllipticF}\left[i\, \text{ArcSinh}\left[\frac{\sqrt{-a + \frac{b c}{d}}}{\sqrt{a + b x}} \right], \frac{b d e - a d f}{b c f - a d f} \right] \right)$$

Problem 77: Result unnecessarily involves complex numbers and more than twice size of optimal antiderivative.

$$\int \frac{A + B x + C x^2}{(a + b x)^{5/2} \sqrt{c + d x} \sqrt{e + f x}}\, dx$$

Optimal (type 4, 642 leaves, 8 steps):

$$-\frac{2\left(A b^2-a\left(b B-a C\right)\right)\sqrt{c+d x}\,\sqrt{e+f x}}{3 b\left(b c-a d\right)\left(b e-a f\right)\left(a+b x\right)^{3/2}}+$$
$$\left(2\left(2 a^3 C d f+a b^2\left(6 c C e+B d e+B c f-4 A d f\right)-b^3\left(3 B c e-2 A\left(d e+c f\right)\right)+\right.\right.$$
$$\left.\left.a^2 b\left(B d f-4 C\left(d e+c f\right)\right)\right)\sqrt{c+d x}\,\sqrt{e+f x}\right)\Big/\left(3 b\left(b c-a d\right)^2\left(b e-a f\right)^2\sqrt{a+b x}\right)-$$
$$\left(2\sqrt{d}\,\left(2 a^3 C d f+a b^2\left(6 c C e+B d e+B c f-4 A d f\right)-b^3\left(3 B c e-2 A\left(d e+c f\right)\right)+\right.\right.$$
$$\left.\left.a^2 b\left(B d f-4 C\left(d e+c f\right)\right)\right)\sqrt{\frac{b\left(c+d x\right)}{b c-a d}}\right.$$
$$\left.\sqrt{e+f x}\,\text{EllipticE}\left[\text{ArcSin}\left[\frac{\sqrt{d}\,\sqrt{a+b x}}{\sqrt{-b c+a d}}\right],\frac{\left(b c-a d\right) f}{d\left(b e-a f\right)}\right]\right)\Big/$$
$$\left(3 b^2\left(-b c+a d\right)^{3/2}\left(b e-a f\right)^2\sqrt{c+d x}\sqrt{\frac{b\left(e+f x\right)}{b e-a f}}\right)-$$
$$\left(2\left(a^2 C d\left(d e-c f\right)-b^2\left(3 c^2 C e-3 B c d e+2 A d^2 e+A c d f\right)+\right.\right.$$
$$\left.\left.a b\left(3\left(c^2 C+A d^2\right) f-B d\left(d e+2 c f\right)\right)\right)\sqrt{\frac{b\left(c+d x\right)}{b c-a d}}\right.$$
$$\left.\sqrt{\frac{b\left(e+f x\right)}{b e-a f}}\,\text{EllipticF}\left[\text{ArcSin}\left[\frac{\sqrt{d}\,\sqrt{a+b x}}{\sqrt{-b c+a d}}\right],\frac{\left(b c-a d\right) f}{d\left(b e-a f\right)}\right]\right)\Big/$$
$$\left(3 b^2\sqrt{d}\,\left(-b c+a d\right)^{3/2}\left(b e-a f\right)\sqrt{c+d x}\,\sqrt{e+f x}\right)$$

Result (type 4, 4349 leaves):

$$\sqrt{a+b x}\,\sqrt{c+d x}\,\sqrt{e+f x}$$
$$\left(-\frac{2\left(A b^2-a b B+a^2 C\right)}{3 b\left(b c-a d\right)\left(b e-a f\right)\left(a+b x\right)^2}-\left(2\left(3 b^3 B c e-6 a b^2 c C e-2 A b^3 d e-a b^2 B d e+\right.\right.\right.$$
$$\left.\left.\left.4 a^2 b C d e-2 A b^3 c f-a b^2 B c f+4 a^2 b c C f+4 a A b^2 d f-a^2 b B d f-2 a^3 C d f\right)\right)\Big/$$
$$\left.\left(3 b\left(b c-a d\right)^2\left(b e-a f\right)^2\left(a+b x\right)\right)\right)+\frac{1}{3 b^3\left(b c-a d\right)^2\left(b e-a f\right)^2}$$
$$2\left(\left(\left(3 b^3 B c e-6 a b^2 c C e-2 A b^3 d e-a b^2 B d e+4 a^2 b C d e-2 A b^3 c f-a b^2 B c f+\right.\right.\right.$$

$$4a^2bcCf+4aAb^2df-a^2bBdf-2a^3Cdf)\ (a+bx)^{3/2}\left(d+\frac{bc}{a+bx}-\frac{ad}{a+bx}\right)\left(f+\frac{be}{a+bx}-\frac{af}{a+bx}\right)\Bigg)\Bigg/\left(\sqrt{c+\frac{(a+bx)\left(d-\frac{ad}{a+bx}\right)}{b}}\ \sqrt{e+\frac{(a+bx)\left(f-\frac{af}{a+bx}\right)}{b}}\right)-$$

$$\frac{1}{\sqrt{c+\frac{(a+bx)\left(d-\frac{ad}{a+bx}\right)}{b}}\ \sqrt{e+\frac{(a+bx)\left(f-\frac{af}{a+bx}\right)}{b}}}(bc-ad)\ (be-af)\ (a+bx)$$

$$\sqrt{\left(d+\frac{bc}{a+bx}-\frac{ad}{a+bx}\right)\left(f+\frac{be}{a+bx}-\frac{af}{a+bx}\right)}$$

$$\left(\left(3ib^3Bcef\sqrt{1-\frac{-bc+ad}{d(a+bx)}}\ \sqrt{1-\frac{-be+af}{f(a+bx)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-bc+ad}{d}}}{\sqrt{a+bx}}\right],\frac{d(-be+af)}{(-bc+ad)f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-bc+ad}{d}}}{\sqrt{a+bx}}\right],\frac{d(-be+af)}{(-bc+ad)f}\right]\right)\right)\Bigg/\left(\sqrt{-\frac{-bc+ad}{d}}\ (-be+af)\sqrt{\left(d+\frac{bc-ad}{a+bx}\right)\left(f+\frac{be-af}{a+bx}\right)}\right)-\right.$$

$$\left(6iab^2cCef\sqrt{1-\frac{-bc+ad}{d(a+bx)}}\ \sqrt{1-\frac{-be+af}{f(a+bx)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-bc+ad}{d}}}{\sqrt{a+bx}}\right],\frac{d(-be+af)}{(-bc+ad)f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-bc+ad}{d}}}{\sqrt{a+bx}}\right],\frac{d(-be+af)}{(-bc+ad)f}\right]\right)\right)\Bigg/\left(\sqrt{-\frac{-bc+ad}{d}}\ (-be+af)\sqrt{\left(d+\frac{bc-ad}{a+bx}\right)\left(f+\frac{be-af}{a+bx}\right)}\right)-$$

$$\left(2\,i\,A\,b^3\,d\,e\,f\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(i\,a\,b^2\,B\,d\,e\,f\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(4\,i\,a^2\,b\,C\,d\,e\,f\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(2\,i\,A\,b^3\,c\,f^2\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(i\,a\,b^2\,B\,c\,f^2\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(4\,i\,a^2\,b\,c\,C\,f^2\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(4\,i\,a\,A\,b^2\,d\,f^2\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(i\,a^2\,b\,B\,d\,f^2\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(2\,i\,a^3\,C\,d\,f^2\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\,\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(3\,i\,b^2\,c\,C\,e\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\,\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.$$

$$\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Big/\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(3\,i\,a\,b\,C\,d\,e\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\,\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.$$

$$\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Big/\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(3\,i\,a\,b\,c\,C\,f\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\,\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.$$

$$\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Big/\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(i\,A\,b^2\,d\,f\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\,\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.$$

$$\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Big/\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(i\,a\,b\,B\,d\,f\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\,\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.$$

$$\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Big/\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(2\,i\,a^2\,C\,d\,f\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\,\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.$$

$$\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Big/\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)\Bigg)$$

Problem 78: Result unnecessarily involves complex numbers and more than twice size of optimal antiderivative.

$$\int\frac{A+B\,x+C\,x^2}{(a+b\,x)^{7/2}\,\sqrt{c+d\,x}\,\sqrt{e+f\,x}}\,dx$$

Optimal (type 4, 1116 leaves, 9 steps):

$$-\frac{2\left(A b^2-a\left(b B-a C\right)\right)\sqrt{c+d x}\,\sqrt{e+f x}}{5 b\left(b c-a d\right)\left(b e-a f\right)\left(a+b x\right)^{5/2}}+$$

$$\left(2\left(2 a^3 C d f+a b^2\left(10 c C e+B d e+B c f-8 A d f\right)-b^3\left(5 B c e-4 A\left(d e+c f\right)\right)+\right.\right.$$
$$\left.\left.3 a^2 b\left(B d f-2 C\left(d e+c f\right)\right)\right)\sqrt{c+d x}\,\sqrt{e+f x}\right)\Big/$$
$$\left(15 b\left(b c-a d\right)^2\left(b e-a f\right)^2\left(a+b x\right)^{3/2}\right)+\left(2\left(2 a^4 C d^2 f^2+a^3 b d f\left(3 B d f-7 C\left(d e+c f\right)\right)-\right.\right.$$
$$b^4\left(8 A d^2 e^2-c d e\left(10 B e-7 A f\right)+c^2\left(15 C e^2-10 B e f+8 A f^2\right)\right)-$$
$$a b^3\left(d^2 e\left(2 B e-23 A f\right)-2 c^2 f\left(5 C e-B f\right)-c d\left(10 C e^2-33 B e f+23 A f^2\right)\right)-$$
$$\left.\left.a^2 b^2\left(C\left(3 d^2 e^2-13 c d e f+3 c^2 f^2\right)+d f\left(23 A d f-7 B\left(d e+c f\right)\right)\right)\right)\sqrt{c+d x}\,\sqrt{e+f x}\right)\Big/$$
$$\left(15 b\left(b c-a d\right)^3\left(b e-a f\right)^3\sqrt{a+b x}\right)+\frac{1}{15 b^2\left(-b c+a d\right)^{5/2}\left(b e-a f\right)^3\sqrt{c+d x}\,\sqrt{\frac{b\left(e+f x\right)}{b e-a f}}}$$
$$2\sqrt{d}\left(2 a^4 C d^2 f^2+a^3 b d f\left(3 B d f-7 C\left(d e+c f\right)\right)-\right.$$
$$b^4\left(8 A d^2 e^2-c d e\left(10 B e-7 A f\right)+c^2\left(15 C e^2-10 B e f+8 A f^2\right)\right)-$$
$$a b^3\left(d^2 e\left(2 B e-23 A f\right)-2 c^2 f\left(5 C e-B f\right)-c d\left(10 C e^2-33 B e f+23 A f^2\right)\right)-$$
$$\left.a^2 b^2\left(C\left(3 d^2 e^2-13 c d e f+3 c^2 f^2\right)+d f\left(23 A d f-7 B\left(d e+c f\right)\right)\right)\right)$$
$$\sqrt{\frac{b\left(c+d x\right)}{b c-a d}}\,\sqrt{e+f x}\,\text{EllipticE}\left[\text{ArcSin}\left[\frac{\sqrt{d}\,\sqrt{a+b x}}{\sqrt{-b c+a d}}\right],\frac{\left(b c-a d\right) f}{d\left(b e-a f\right)}\right]+$$
$$\frac{1}{15 b^2\left(-b c+a d\right)^{5/2}\left(b e-a f\right)^2\sqrt{c+d x}\,\sqrt{e+f x}}$$
$$2\sqrt{d}\left(a^3 C d f\left(d e-c f\right)+b^3\left(8 A d^2 e^2-c d e\left(10 B e-3 A f\right)+c^2\left(15 C e^2-5 B e f+4 A f^2\right)\right)+\right.$$
$$a b^2\left(d^2 e\left(2 B e-19 A f\right)-c^2 f\left(20 C e-B f\right)-c d\left(10 C e^2-27 B e f+11 A f^2\right)\right)-$$
$$\left.3 a^2 b\left(d f\left(2 B d e+3 B c f-5 A d f\right)-C\left(d^2 e^2+c d e f+3 c^2 f^2\right)\right)\right)$$
$$\sqrt{\frac{b\left(c+d x\right)}{b c-a d}}\,\sqrt{\frac{b\left(e+f x\right)}{b e-a f}}\,\text{EllipticF}\left[\text{ArcSin}\left[\frac{\sqrt{d}\,\sqrt{a+b x}}{\sqrt{-b c+a d}}\right],\frac{\left(b c-a d\right) f}{d\left(b e-a f\right)}\right]$$

Result (type 4, 8844 leaves):

$$\sqrt{a+b x}\,\sqrt{c+d x}\,\sqrt{e+f x}$$
$$\left(-\frac{2\left(A b^2-a b B+a^2 C\right)}{5 b\left(b c-a d\right)\left(b e-a f\right)\left(a+b x\right)^3}-\left(2\left(5 b^3 B c e-10 a b^2 c C e-4 A b^3 d e-a b^2 B d e+\right.\right.\right.$$
$$\left.\left.\left.6 a^2 b C d e-4 A b^3 c f-a b^2 B c f+6 a^2 b c C f+8 a A b^2 d f-3 a^2 b B d f-2 a^3 C d f\right)\right)\Big/$$
$$\left(15 b\left(b c-a d\right)^2\left(b e-a f\right)^2\left(a+b x\right)^2\right)-\frac{1}{15 b\left(b c-a d\right)^3\left(b e-a f\right)^3\left(a+b x\right)}$$
$$2\left(15 b^4 c^2 C e^2-10 b^4 B c d e^2-10 a b^3 c C d e^2+8 A b^4 d^2 e^2+2 a b^3 B d^2 e^2+3 a^2 b^2 C d^2 e^2-\right.$$
$$10 b^4 B c^2 e f-10 a b^3 c^2 C e f+7 A b^4 c d e f+33 a b^3 B c d e f-13 a^2 b^2 c C d e f-$$
$$23 a A b^3 d^2 e f-7 a^2 b^2 B d^2 e f+7 a^3 b C d^2 e f+8 A b^4 c^2 f^2+2 a b^3 B c^2 f^2+3 a^2 b^2 c^2 C f^2-$$
$$\left.23 a A b^3 c d f^2-7 a^2 b^2 B c d f^2+7 a^3 b c C d f^2+23 a^2 A b^2 d^2 f^2-3 a^3 b B d^2 f^2-2 a^4 C d^2 f^2\right)+$$

$$\frac{1}{15\,b^3\,(b\,c-a\,d)^3\,(b\,e-a\,f)^3}\,2\,d\,f\left(\frac{1}{d\,f\sqrt{c+\frac{(a+b\,x)\left(d-\frac{a\,d}{a+b\,x}\right)}{b}}\sqrt{e+\frac{(a+b\,x)\left(f-\frac{a\,f}{a+b\,x}\right)}{b}}}\right.$$

$$\left(15\,b^4\,c^2\,C\,e^2-10\,b^4\,B\,c\,d\,e^2-10\,a\,b^3\,c\,C\,d\,e^2+8\,A\,b^4\,d^2\,e^2+2\,a\,b^3\,B\,d^2\,e^2+3\,a^2\,b^2\,C\,d^2\,e^2-\right.$$
$$10\,b^4\,B\,c^2\,e\,f-10\,a\,b^3\,c^2\,C\,e\,f+7\,A\,b^4\,c\,d\,e\,f+33\,a\,b^3\,B\,c\,d\,e\,f-13\,a^2\,b^2\,c\,C\,d\,e\,f-$$
$$23\,a\,A\,b^3\,d^2\,e\,f-7\,a^2\,b^2\,B\,d^2\,e\,f+7\,a^3\,b\,C\,d^2\,e\,f+8\,A\,b^4\,c^2\,f^2+2\,a\,b^3\,B\,c^2\,f^2+3\,a^2\,b^2\,c^2\,C\,f^2-$$
$$\left.23\,a\,A\,b^3\,c\,d\,f^2-7\,a^2\,b^2\,B\,c\,d\,f^2+7\,a^3\,b\,c\,C\,d\,f^2+23\,a^2\,A\,b^2\,d^2\,f^2-3\,a^3\,b\,B\,d^2\,f^2-2\,a^4\,C\,d^2\,f^2\right)$$
$$(a+b\,x)^{3/2}\left(d+\frac{b\,c}{a+b\,x}-\frac{a\,d}{a+b\,x}\right)\left(f+\frac{b\,e}{a+b\,x}-\frac{a\,f}{a+b\,x}\right)+$$
$$\frac{1}{d\,f\sqrt{c+\frac{(a+b\,x)\left(d-\frac{a\,d}{a+b\,x}\right)}{b}}\sqrt{e+\frac{(a+b\,x)\left(f-\frac{a\,f}{a+b\,x}\right)}{b}}}(-b\,c+a\,d)\,(-b\,e+a\,f)\,(a+b\,x)$$

$$\sqrt{\left(d+\frac{b\,c}{a+b\,x}-\frac{a\,d}{a+b\,x}\right)\left(f+\frac{b\,e}{a+b\,x}-\frac{a\,f}{a+b\,x}\right)}\left(-\left(\left(\left(15\,i\,b^4\,c^2\,C\,e^2\,f\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\right.\right.\right.\right.$$
$$\left.\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\right.\right.$$
$$\left.\left.\left.\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right)\Big/$$
$$\left.\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,(-b\,e+a\,f)\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+\right.$$
$$\left(10\,i\,b^4\,B\,c\,d\,e^2\,f\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.\right.$$

$$\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]-\text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]\Bigg)\Bigg)\Big/$$

$$\Bigg(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\sqrt{\Big(d+\frac{b\,c-a\,d}{a+b\,x}\Big)\Big(f+\frac{b\,e-a\,f}{a+b\,x}\Big)}\Bigg)+\Bigg(10\,i\,a\,b^3\,c$$

$$C\,d\,e^2\,f\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\Bigg(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],$$

$$\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]-\text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]\Bigg)\Bigg)\Big/$$

$$\Bigg(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\sqrt{\Big(d+\frac{b\,c-a\,d}{a+b\,x}\Big)\Big(f+\frac{b\,e-a\,f}{a+b\,x}\Big)}\Bigg)-$$

$$\Bigg(8\,i\,A\,b^4\,d^2\,e^2\,f\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\Bigg(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],$$

$$\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]-\text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]\Bigg)\Bigg)\Big/$$

$$\Bigg(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\sqrt{\Big(d+\frac{b\,c-a\,d}{a+b\,x}\Big)\Big(f+\frac{b\,e-a\,f}{a+b\,x}\Big)}\Bigg)-$$

$$\Bigg(2\,i\,a\,b^3\,B\,d^2\,e^2\,f\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\Bigg(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],$$

$$\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big] - \text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]\Bigg)\Bigg)\Big/$$

$$\Bigg(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\sqrt{\Big(d+\frac{b\,c-a\,d}{a+b\,x}\Big)\Big(f+\frac{b\,e-a\,f}{a+b\,x}\Big)}\Bigg) - \Bigg(3\,i\,a^2\,b^2\,C$$

$$d^2\,e^2\,f\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\Bigg(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],$$

$$\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big] - \text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]\Bigg)\Bigg)\Big/$$

$$\Bigg(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\sqrt{\Big(d+\frac{b\,c-a\,d}{a+b\,x}\Big)\Big(f+\frac{b\,e-a\,f}{a+b\,x}\Big)}\Bigg) +$$

$$\Bigg(10\,i\,b^4\,B\,c^2\,e\,f^2\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\Bigg(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],$$

$$\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big] - \text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]\Bigg)\Bigg)\Big/$$

$$\Bigg(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\sqrt{\Big(d+\frac{b\,c-a\,d}{a+b\,x}\Big)\Big(f+\frac{b\,e-a\,f}{a+b\,x}\Big)}\Bigg) + \Bigg(10\,i\,a\,b^3\,c^2$$

$$C\,e\,f^2\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\Bigg(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],$$

$$\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]-\text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]\Bigg)\Bigg)\Big/$$

$$\Bigg(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\sqrt{\Big(d+\frac{b\,c-a\,d}{a+b\,x}\Big)\Big(f+\frac{b\,e-a\,f}{a+b\,x}\Big)}\Bigg)-$$

$$\Bigg(7\,i\,A\,b^4\,c\,d\,e\,f^2\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\Bigg(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],$$

$$\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]-\text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]\Bigg)\Bigg)\Big/$$

$$\Bigg(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\sqrt{\Big(d+\frac{b\,c-a\,d}{a+b\,x}\Big)\Big(f+\frac{b\,e-a\,f}{a+b\,x}\Big)}\Bigg)-\Bigg(33\,i\,a\,b^3\,B$$

$$c\,d\,e\,f^2\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\Bigg(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],$$

$$\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]-\text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]\Bigg)\Bigg)\Big/$$

$$\Bigg(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\sqrt{\Big(d+\frac{b\,c-a\,d}{a+b\,x}\Big)\Big(f+\frac{b\,e-a\,f}{a+b\,x}\Big)}\Bigg)+$$

$$\Bigg(13\,i\,a^2\,b^2\,c\,C\,d\,e\,f^2\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}$$

$$\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\right.$$

$$\left.\left.\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\ \sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(23\,i\,a\,A\,b^3\,d^2\,e\,f^2\ \sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\ \sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\right.$$

$$\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\right.$$

$$\left.\left.\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\right/$$

$$\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\ \sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(7\,i\,a^2\,b^2\,B\,d^2\,e\,f^2\ \sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\ \sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\right.$$

$$\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]-\right.$$

$$\text{EllipticF}\left[\text{i ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right], \frac{d\left(-b e+a f\right)}{\left(-b c+a d\right) f}\right]\Bigg)\Bigg) \Bigg/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ \left(-b e+a f\right) \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right) -$$

$$\left(7 \text{i } a^3 b C d^2 e f^2 \sqrt{1-\frac{-b c+a d}{d\left(a+b x\right)}} \sqrt{1-\frac{-b e+a f}{f\left(a+b x\right)}} \left(\text{EllipticE}\left[\text{i ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\left(-b e+a f\right)}{\left(-b c+a d\right) f}\right] - \text{EllipticF}\left[\text{i ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right], \frac{d\left(-b e+a f\right)}{\left(-b c+a d\right) f}\right]\right)\right) \Bigg/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ \left(-b e+a f\right) \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right) -$$

$$\left(8 \text{i } A b^4 c^2 f^3 \sqrt{1-\frac{-b c+a d}{d\left(a+b x\right)}} \sqrt{1-\frac{-b e+a f}{f\left(a+b x\right)}} \left(\text{EllipticE}\left[\text{i ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\right.\right.\right.$$

$$\left.\left.\left.\frac{d\left(-b e+a f\right)}{\left(-b c+a d\right) f}\right] - \text{EllipticF}\left[\text{i ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right], \frac{d\left(-b e+a f\right)}{\left(-b c+a d\right) f}\right]\right)\right) \Bigg/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ \left(-b e+a f\right) \sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right) -$$

$$\left(2 \text{i } a b^3 B c^2 f^3 \sqrt{1-\frac{-b c+a d}{d\left(a+b x\right)}} \sqrt{1-\frac{-b e+a f}{f\left(a+b x\right)}} \left(\text{EllipticE}\left[\text{i ArcSinh}\left[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\right],\right.\right.\right.$$

$$\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big] - \text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]\Bigg)\Bigg)\Big/$$

$$\Bigg(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\sqrt{\Big(d+\frac{b\,c-a\,d}{a+b\,x}\Big)\Big(f+\frac{b\,e-a\,f}{a+b\,x}\Big)}\Bigg) -$$

$$\Bigg(3\,i\,a^2\,b^2\,c^2\,C\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\Bigg(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],$$

$$\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big] - \text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]\Bigg)\Bigg)\Big/$$

$$\Bigg(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\sqrt{\Big(d+\frac{b\,c-a\,d}{a+b\,x}\Big)\Big(f+\frac{b\,e-a\,f}{a+b\,x}\Big)}\Bigg) +$$

$$\Bigg(23\,i\,a\,A\,b^3\,c\,d\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\Bigg(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],$$

$$\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big] - \text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]\Bigg)\Bigg)\Big/$$

$$\Bigg(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\sqrt{\Big(d+\frac{b\,c-a\,d}{a+b\,x}\Big)\Big(f+\frac{b\,e-a\,f}{a+b\,x}\Big)}\Bigg) +$$

$$\Bigg(7\,i\,a^2\,b^2\,B\,c\,d\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\Bigg(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],$$

$$\frac{d\left(-b e+a f\right)}{\left(-b c+a d\right) f}\Big] - \text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\Big], \frac{d\left(-b e+a f\right)}{\left(-b c+a d\right) f}\Big]\Bigg)\Bigg) \Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ \left(-b e+a f\right)\sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right) -$$

$$\left(7\,i\,a^3\,b\,c\,C\,d\,f^3\sqrt{1-\frac{-b c+a d}{d\left(a+b x\right)}}\sqrt{1-\frac{-b e+a f}{f\left(a+b x\right)}}\left(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\Big],\right.\right.$$

$$\left.\left.\frac{d\left(-b e+a f\right)}{\left(-b c+a d\right) f}\Big] - \text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\Big], \frac{d\left(-b e+a f\right)}{\left(-b c+a d\right) f}\Big]\right)\right) \Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ \left(-b e+a f\right)\sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right) -$$

$$\left(23\,i\,a^2\,A\,b^2\,d^2\,f^3\sqrt{1-\frac{-b c+a d}{d\left(a+b x\right)}}\sqrt{1-\frac{-b e+a f}{f\left(a+b x\right)}}\left(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\Big],\right.\right.$$

$$\left.\left.\frac{d\left(-b e+a f\right)}{\left(-b c+a d\right) f}\Big] - \text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\Big], \frac{d\left(-b e+a f\right)}{\left(-b c+a d\right) f}\Big]\right)\right) \Big/$$

$$\left(\sqrt{-\frac{-b c+a d}{d}}\ \left(-b e+a f\right)\sqrt{\left(d+\frac{b c-a d}{a+b x}\right)\left(f+\frac{b e-a f}{a+b x}\right)}\right) +$$

$$\left(3\,i\,a^3\,b\,B\,d^2\,f^3\sqrt{1-\frac{-b c+a d}{d\left(a+b x\right)}}\sqrt{1-\frac{-b e+a f}{f\left(a+b x\right)}}\left(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b c+a d}{d}}}{\sqrt{a+b x}}\Big],\right.\right.$$

$$\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big] - \text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]\Bigg)\Bigg) \Big/$$

$$\Bigg(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\sqrt{\Big(d+\frac{b\,c-a\,d}{a+b\,x}\Big)\Big(f+\frac{b\,e-a\,f}{a+b\,x}\Big)}\Bigg) +$$

$$\Bigg(2\,i\,a^4\,C\,d^2\,f^3\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\Bigg(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],$$

$$\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big] - \text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],\ \frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]\Bigg)\Bigg) \Big/$$

$$\Bigg(\sqrt{-\frac{-b\,c+a\,d}{d}}\ (-b\,e+a\,f)\sqrt{\Big(d+\frac{b\,c-a\,d}{a+b\,x}\Big)\Big(f+\frac{b\,e-a\,f}{a+b\,x}\Big)}\Bigg) -$$

$$\Bigg(5\,i\,b^3\,B\,c\,d\,e\,f\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\ \text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],$$

$$\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]\Bigg) \Big/ \Bigg(\sqrt{-\frac{-b\,c+a\,d}{d}}\ \sqrt{\Big(d+\frac{b\,c-a\,d}{a+b\,x}\Big)\Big(f+\frac{b\,e-a\,f}{a+b\,x}\Big)}\Bigg) +$$

$$\Bigg(10\,i\,a\,b^2\,c\,C\,d\,e\,f\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\ \text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\Big],$$

$$\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\Big]\Bigg) \Big/ \Bigg(\sqrt{-\frac{-b\,c+a\,d}{d}}\ \sqrt{\Big(d+\frac{b\,c-a\,d}{a+b\,x}\Big)\Big(f+\frac{b\,e-a\,f}{a+b\,x}\Big)}\Bigg) +$$

$$\left(4\,i\,A\,b^3\,d^2\,e\,f\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\,\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.$$

$$\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Big/\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(i\,a\,b^2\,B\,d^2\,e\,f\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\,\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.$$

$$\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Big/\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(6\,i\,a^2\,b\,C\,d^2\,e\,f\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\,\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.$$

$$\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Big/\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(4\,i\,A\,b^3\,c\,d\,f^2\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\,\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.$$

$$\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Big/\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(i\,a\,b^2\,B\,c\,d\,f^2\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\,\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.$$

$$\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Big/\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(6\,i\,a^2\,b\,c\,C\,d\,f^2\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\,\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.$$

$$\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Big/\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)-$$

$$\left(8\,i\,a\,A\,b^2\,d^2\,f^2\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\,\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.$$

$$\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Big/\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(3\,i\,a^2\,b\,B\,d^2\,f^2\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\,\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.$$

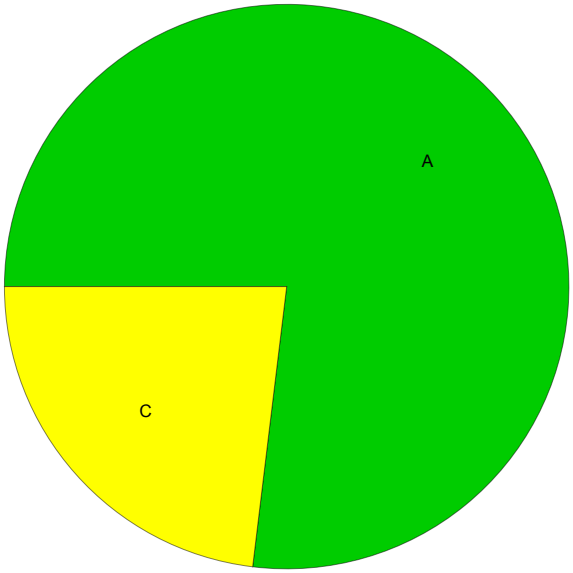
$$\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Big/\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)+$$

$$\left(2\,i\,a^3\,C\,d^2\,f^2\,\sqrt{1-\frac{-b\,c+a\,d}{d\,(a+b\,x)}}\,\sqrt{1-\frac{-b\,e+a\,f}{f\,(a+b\,x)}}\,\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-b\,c+a\,d}{d}}}{\sqrt{a+b\,x}}\right],\right.\right.$$

$$\left.\left.\frac{d\,(-b\,e+a\,f)}{(-b\,c+a\,d)\,f}\right]\right)\Big/\left(\sqrt{-\frac{-b\,c+a\,d}{d}}\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)}\right)\Bigg)$$

Summary of Integration Test Results

78 integration problems



A - 60 optimal antiderivatives

B - 0 more than twice size of optimal antiderivatives

C - 18 unnecessarily complex antiderivatives

D - 0 unable to integrate problems

E - 0 integration timeouts