Mathematica 11.3 Integration Test Results

Test results for the 400 problems in "1.2.1.9 P(x) (d+e x)^m (a+b x+c x^2)^p.m"

Problem 39: Result more than twice size of optimal antiderivative.

$$\int \frac{\left(a+b x^2\right) \left(-a d+4 b c x+3 b d x^2\right)}{(c+d x)^2} \, dx$$

Optimal (type 1, 17 leaves, 1 step):

$$\frac{\left(a+b x^2\right)^2}{c+d x}$$

Result (type 1, 62 leaves):

$$\frac{a^2 d^4+2 a b d^2 \left(c^2+c d x+d^2 x^2\right)+b^2 \left(c^4+c^3 d x+d^4 x^4\right)}{d^4 (c+d x)}$$

Problem 40: Result more than twice size of optimal antiderivative.

$$\int \frac{\left(a+b x^2\right) (-a d+b x (4 c+3 d x))}{(c+d x)^2} \, dx$$

Optimal (type 1, 17 leaves, 1 step):

$$\frac{\left(a+b x^2\right)^2}{c+d x}$$

Result (type 1, 62 leaves):

$$\frac{a^2 d^4+2 a b d^2 \left(c^2+c d x+d^2 x^2\right)+b^2 \left(c^4+c^3 d x+d^4 x^4\right)}{d^4 (c+d x)}$$

Problem 41: Result more than twice size of optimal antiderivative.

$$\int \frac{\left(a+b x^2\right)^2 \left(-a d+6 b c x+5 b d x^2\right)}{(c+d x)^2} \, dx$$

Optimal (type 1, 17 leaves, 1 step):

$$\frac{\left(a+b x^2\right)^3}{c+d x}$$

Result (type 1, 90 leaves):

$$\frac{1}{d^6\,(c+d\,x)}\left(a^3\,d^6+3\,a^2\,b\,d^4\,\left(c^2+c\,d\,x+d^2\,x^2\right)+3\,a\,b^2\,d^2\,\left(c^4+c^3\,d\,x+d^4\,x^4\right)+b^3\,\left(c^6+c^5\,d\,x+d^6\,x^6\right)\right)$$

Problem 42: Result more than twice size of optimal antiderivative.

$$\int\frac{\left(a+b\,x^2\right)^2\,\left(-a\,d+b\,x\,\left(6\,c+5\,d\,x\right)\right)}{\left(c+d\,x\right)^2}\,dx$$

Optimal (type 1, 17 leaves, 1 step):

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

Result (type 1, 90 leaves):

$$\frac{1}{d^6\,(c+d\,x)}\left(a^3\,d^6+3\,a^2\,b\,d^4\,\left(c^2+c\,d\,x+d^2\,x^2\right)+3\,a\,b^2\,d^2\,\left(c^4+c^3\,d\,x+d^4\,x^4\right)+b^3\,\left(c^6+c^5\,d\,x+d^6\,x^6\right)\right)$$

Problem 136: Unable to integrate problem.

$$\int(g+h\,x)^m\,\left(a+c\,x^2\right)^p\,\left(d+e\,x+f\,x^2\right)\,dx$$

Optimal (type 6, 420 leaves, 6 steps):

$$\frac{f\,(g+h\,x)^{1+m}\,\left(a+c\,x^2\right)^{1+p}}{c\,h\,(3+m+2\,p)}-\left(\left(a\,f\,h^2\,(1+m)-c\,\left(2\,f\,g^2\,(1+p)-h\,(e\,g-d\,h)\,(3+m+2\,p)\right)\right)\,(g+h\,x)^{1+m}\,\left(a+c\,x^2\right)^p\right.$$
$$\left(1-\frac{g+h\,x}{g-\frac{\sqrt{-a}\,h}{\sqrt{c}}}\right)^{-p}\left(1-\frac{g+h\,x}{g+\frac{\sqrt{-a}\,h}{\sqrt{c}}}\right)^{-p}$$
$$\left.\text{AppellF1}\left[1+m,\,-p,\,-p,\,2+m,\,\frac{g+h\,x}{g-\frac{\sqrt{-a}\,h}{\sqrt{c}}},\,\frac{g+h\,x}{g+\frac{\sqrt{-a}\,h}{\sqrt{c}}}\right]\right)\Big/\left(c\,h^3\,(1+m)\,(3+m+2\,p)\right)-$$
$$\left(\left(2\,f\,g\,(1+p)-e\,h\,(3+m+2\,p)\right)\,(g+h\,x)^{2+m}\,\left(a+c\,x^2\right)^p\left(1-\frac{g+h\,x}{g-\frac{\sqrt{-a}\,h}{\sqrt{c}}}\right)^{-p}\left(1-\frac{g+h\,x}{g+\frac{\sqrt{-a}\,h}{\sqrt{c}}}\right)^{-p}\right.$$
$$\left.\text{AppellF1}\left[2+m,\,-p,\,-p,\,3+m,\,\frac{g+h\,x}{g-\frac{\sqrt{-a}\,h}{\sqrt{c}}},\,\frac{g+h\,x}{g+\frac{\sqrt{-a}\,h}{\sqrt{c}}}\right]\right)\Big/\left(h^3\,(2+m)\,(3+m+2\,p)\right)$$

Result (type 8, 29 leaves):

$$\int (g+h x)^m \left(a+c x^2\right)^p \left(d+e x+f x^2\right) dx$$

Problem 137: Unable to integrate problem.

$$\int (g+h x)^m \sqrt{a+c x^2} \left(d+e x+f x^2\right) dx$$

Optimal (type 6, 403 leaves, 6 steps):

$$\frac{f (g+h x)^{1+m} \left(a+c x^2\right)^{3/2}}{c h (4+m)} - \left(\left(a f h^2 (1+m) - c \left(3 f g^2 - h (e g - d h) (4+m)\right)\right) (g+h x)^{1+m} \sqrt{a+c x^2}\, \text{AppellF1}\left[1+m, -\frac{1}{2}, -\frac{1}{2}, 2+m, \frac{g+h x}{g-\frac{\sqrt{-a}\, h}{\sqrt{c}}}, \frac{g+h x}{g+\frac{\sqrt{-a}\, h}{\sqrt{c}}}\right]\right) \Bigg/ \left(c h^3 (1+m) (4+m) \sqrt{1-\frac{g+h x}{g-\frac{\sqrt{-a}\, h}{\sqrt{c}}}} \sqrt{1-\frac{g+h x}{g+\frac{\sqrt{-a}\, h}{\sqrt{c}}}}\right) - \left((3 f g - e h (4+m)) (g+h x)^{2+m} \sqrt{a+c x^2}\, \text{AppellF1}\left[2+m, -\frac{1}{2}, -\frac{1}{2}, 3+m, \frac{g+h x}{g-\frac{\sqrt{-a}\, h}{\sqrt{c}}}, \frac{g+h x}{g+\frac{\sqrt{-a}\, h}{\sqrt{c}}}\right]\right) \Bigg/ \left(h^3 (2+m) (4+m) \sqrt{1-\frac{g+h x}{g-\frac{\sqrt{-a}\, h}{\sqrt{c}}}} \sqrt{1-\frac{g+h x}{g+\frac{\sqrt{-a}\, h}{\sqrt{c}}}}\right)$$

Result (type 8, 31 leaves):

$$\int (g+h x)^m \sqrt{a+c x^2} \left(d+e x+f x^2\right) dx$$

Problem 138: Unable to integrate problem.

$$\int (g+h x)^{-3-2 p} \left(a+c x^2\right)^p \left(d+e x+f x^2\right) dx$$

Optimal (type 6, 474 leaves, 5 steps):

$$-\frac{\left(f g^2-e g h+d h^2\right) (g+h x)^{-2 (1+p)} \left(a+c x^2\right)^{1+p}}{2 h \left(c g^2+a h^2\right) (1+p)}-$$
$$\frac{1}{2 h^3 p} f (g+h x)^{-2 p} \left(a+c x^2\right)^p \left(1-\frac{g+h x}{g-\frac{\sqrt{-a} h}{\sqrt{c}}}\right)^{-p} \left(1-\frac{g+h x}{g+\frac{\sqrt{-a} h}{\sqrt{c}}}\right)^{-p}$$
$$\text{AppellF1}\left[-2 p,-p,-p,1-2 p,\frac{g+h x}{g-\frac{\sqrt{-a} h}{\sqrt{c}}},\frac{g+h x}{g+\frac{\sqrt{-a} h}{\sqrt{c}}}\right]+\left(\left(a h^2 (2 f g-e h)+c \left(f g^3-d g h^2\right)\right)\right.$$
$$\left(\sqrt{-a}-\sqrt{c} x\right) \left(-\frac{\left(\sqrt{c} g+\sqrt{-a} h\right) \left(\sqrt{-a}+\sqrt{c} x\right)}{\left(\sqrt{c} g-\sqrt{-a} h\right) \left(\sqrt{-a}-\sqrt{c} x\right)}\right)^{-p} (g+h x)^{-1-2 p} \left(a+c x^2\right)^p$$
$$\left.\text{Hypergeometric2F1}\left[-1-2 p,-p,-2 p,\frac{2 \sqrt{-a} \sqrt{c} (g+h x)}{\left(\sqrt{c} g-\sqrt{-a} h\right) \left(\sqrt{-a}-\sqrt{c} x\right)}\right]\right) \Big/$$
$$\left(h^2 \left(\sqrt{c} g+\sqrt{-a} h\right) \left(c g^2+a h^2\right) (1+2 p)\right)$$

Result (type 8, 33 leaves):

$$\int (g+h x)^{-3-2 p} \left(a+c x^2\right)^p \left(d+e x+f x^2\right) \, dx$$

Problem 139: Result unnecessarily involves higher level functions and more than twice size of optimal antiderivative.

$$\int (d+e x)^m \left(-c d^2+b d e+b e^2 x+c e^2 x^2\right)^p \left(-(c d-b e) f+(c e f-c d g+b e g) x+c e g x^2\right) \, dx$$

Optimal (type 5, 222 leaves, 6 steps):

$$\frac{g (d+e x)^{-1+m} \left(-d (c d-b e)+b e^2 x+c e^2 x^2\right)^{2+p}}{c e^2 (3+m+2 p)}-$$
$$\left((b e g (1+m+p)+c (d g (1-m)-e f (3+m+2 p))) (d+e x)^m\right.$$
$$\left(\frac{c (d+e x)}{2 c d-b e}\right)^{-m-p} (c d-b e-c e x)^2 \left(-d (c d-b e)+b e^2 x+c e^2 x^2\right)^p$$
$$\left.\text{Hypergeometric2F1}\left[-m-p,2+p,3+p,\frac{c d-b e-c e x}{2 c d-b e}\right]\right) \Big/ \left(c^2 e^2 (2+p) (3+m+2 p)\right)$$

Result (type 6, 527 leaves):

$$\frac{1}{3}(d+e x)^m(-(d+e x)(-b e+c(d-e x)))^p$$
$$\left(\left(9 d(c d-b e)(-c e f+c d g-b e g) x^2 \text{AppellF1}\left[2,-m-p,-p,3,-\frac{e x}{d},\frac{c e x}{c d-b e}\right]\right)\Big/\right.$$
$$\left(2\left(3 d(-c d+b e) \text{AppellF1}\left[2,-m-p,-p,3,-\frac{e x}{d},\frac{c e x}{c d-b e}\right]+\right.\right.$$
$$e x\left(c d p \text{AppellF1}\left[3,-m-p,1-p,4,-\frac{e x}{d},\frac{c e x}{c d-b e}\right]-\right.$$
$$\left.\left.\left.(c d-b e)(m+p) \text{AppellF1}\left[3,1-m-p,-p,4,-\frac{e x}{d},\frac{c e x}{c d-b e}\right]\right)\right)\right)+$$
$$\left(4 c d e(-c d+b e) g x^3 \text{AppellF1}\left[3,-m-p,-p,4,-\frac{e x}{d},\frac{c e x}{c d-b e}\right]\right)\Big/$$
$$\left(4 d(-c d+b e) \text{AppellF1}\left[3,-m-p,-p,4,-\frac{e x}{d},\frac{c e x}{c d-b e}\right]+\right.$$
$$e x\left(c d p \text{AppellF1}\left[4,-m-p,1-p,5,-\frac{e x}{d},\frac{c e x}{c d-b e}\right]-\right.$$
$$\left.\left.(c d-b e)(m+p) \text{AppellF1}\left[4,1-m-p,-p,5,-\frac{e x}{d},\frac{c e x}{c d-b e}\right]\right)\right)-$$
$$\frac{1}{c e(1+p)} 3(c d-b e) f\left(\frac{c(d+e x)}{2 c d-b e}\right)^{-m-p}(-c d+b e+c e x)$$
$$\left.\text{Hypergeometric2F1}\left[-m-p,1+p,2+p,\frac{-c d+b e+c e x}{-2 c d+b e}\right]\right)$$

Problem 206: Result more than twice size of optimal antiderivative.

$$\int \frac{\left(a+b x+c x^2\right)^{3/2}\left(d+e x+f x^2\right)}{(g+h x)^7}\, dx$$

Optimal (type 3, 657 leaves, 6 steps):

$$-\left(\left(\left(b^2-4 a c\right) \left(24 c^2 d g^2+24 a^2 f h^2-12 a b h (2 f g+e h)+b^2 \left(7 f g^2+5 e g h+7 d h^2\right)-4 c \left(3 b g (e g+2 d h)+a \left(f g^2-7 e g h+d h^2\right)\right)\right) (b g-2 a h+(2 c g-b h) x) \sqrt{a+b x+c x^2}\right)\Big/\left(512 \left(c g^2-b g h+a h^2\right)^4 (g+h x)^2\right)\right)+$$
$$\left(\left(24 c^2 d g^2+24 a^2 f h^2-12 a b h (2 f g+e h)+b^2 \left(7 f g^2+5 e g h+7 d h^2\right)-4 c \left(3 b g (e g+2 d h)+a \left(f g^2-7 e g h+d h^2\right)\right)\right) (b g-2 a h+(2 c g-b h) x) \left(a+b x+c x^2\right)^{3/2}\right)\Big/\left(192 \left(c g^2-b g h+a h^2\right)^3 (g+h x)^4\right)-$$
$$\frac{\left(f g^2-h (e g-d h)\right) \left(a+b x+c x^2\right)^{5/2}}{6 h \left(c g^2-b g h+a h^2\right) (g+h x)^6}+$$
$$\left(\left(2 c g \left(5 f g^2+h (e g-7 d h)\right)+h \left(12 a h (2 f g-e h)-b \left(17 f g^2-5 e g h-7 d h^2\right)\right)\right) \left(a+b x+c x^2\right)^{5/2}\right)\Big/\left(60 h \left(c g^2-b g h+a h^2\right)^2 (g+h x)^5\right)+$$
$$\left(\left(b^2-4 a c\right)^2 \left(24 c^2 d g^2+24 a^2 f h^2-12 a b h (2 f g+e h)+b^2 \left(7 f g^2+5 e g h+7 d h^2\right)-4 c \left(3 b g (e g+2 d h)+a \left(f g^2-7 e g h+d h^2\right)\right)\right) \text{ArcTanh}\left[\frac{b g-2 a h+(2 c g-b h) x}{2 \sqrt{c g^2-b g h+a h^2} \sqrt{a+b x+c x^2}}\right]\right)\Big/\left(1024 \left(c g^2-b g h+a h^2\right)^{9/2}\right)$$

Result (type 3, 2022 leaves) :

$$\frac{1}{a+b\,x+c\,x^2}\left(a+x\left(b+c\,x\right)\right)^{3/2}\left(-\frac{\left(c\,g^2-b\,g\,h+a\,h^2\right)\left(f\,g^2-e\,g\,h+d\,h^2\right)}{6\,h^5\left(g+h\,x\right)^6}+\frac{1}{60\,h^5\left(g+h\,x\right)^5}\right.$$

$$\left(50\,c\,f\,g^3-38\,c\,e\,g^2\,h-37\,b\,f\,g^2\,h+26\,c\,d\,g\,h^2+25\,b\,e\,g\,h^2+24\,a\,f\,g\,h^2-13\,b\,d\,h^3-12\,a\,e\,h^3\right)+$$

$$\left(-800\,c^2\,f\,g^4+416\,c^2\,e\,g^3\,h+1184\,b\,c\,f\,g^3\,h-152\,c^2\,d\,g^2\,h^2-548\,b\,c\,e\,g^2\,h^2-387\,b^2\,f\,g^2\,h^2-908\,a\,c\,f\,g^2\,h^2+152\,b\,c\,d\,g\,h^3+135\,b^2\,e\,g\,h^3+404\,a\,c\,e\,g\,h^3+504\,a\,b\,f\,g\,h^3-3\,b^2\,d\,h^4-140\,a\,c\,d\,h^4-132\,a\,b\,e\,h^4-120\,a^2\,f\,h^4\right)\Big/$$

$$\left(480\,h^5\left(c\,g^2-b\,g\,h+a\,h^2\right)\left(g+h\,x\right)^4\right)+\frac{1}{960\,h^5\left(c\,g^2-b\,g\,h+a\,h^2\right)^2\left(g+h\,x\right)^3}$$

$$\left(1600\,c^3\,f\,g^5-448\,c^3\,e\,g^4\,h-3552\,b\,c^2\,f\,g^4\,h+16\,c^3\,d\,g^3\,h^2+888\,b\,c^2\,e\,g^3\,h^2+2322\,b^2\,c\,f\,g^3\,h^2+3144\,a\,c^2\,f\,g^3\,h^2-24\,b\,c^2\,d\,g^2\,h^3-438\,b^2\,c\,e\,g^2\,h^3-888\,a\,c^2\,e\,g^2\,h^3-377\,b^3\,f\,g^2\,h^3-3828\,a\,b\,c\,f\,g^2\,h^3-6\,b^2\,c\,d\,g\,h^4+72\,a\,c^2\,d\,g\,h^4+5\,b^3\,e\,g\,h^4+852\,a\,b\,c\,e\,g\,h^4+744\,a\,b^2\,f\,g\,h^4+1488\,a^2\,c\,f\,g\,h^4+7\,b^3\,d\,h^5-36\,a\,b\,c\,d\,h^5-12\,a\,b^2\,e\,h^5-384\,a^2\,c\,e\,h^5-360\,a^2\,b\,f\,h^5\right)+$$

$$\frac{1}{3840\,h^5\left(c\,g^2-b\,g\,h+a\,h^2\right)^3\left(g+h\,x\right)^2}\left(-3200\,c^4\,f\,g^6+128\,c^4\,e\,g^5\,h+9472\,b\,c^3\,f\,g^5\,h+64\,c^4\,d\,g^4\,h^2-352\,b\,c^3\,e\,g^4\,h^2-9288\,b^2\,c^2\,f\,g^4\,h^2-9504\,a\,c^3\,f\,g^4\,h^2-128\,b\,c^3\,d\,g^3\,h^3+264\,b^2\,c^2\,e\,g^3\,h^3+480\,a\,c^3\,e\,g^3\,h^3+3016\,b^3\,c\,f\,g^3\,h^3+18528\,a\,b\,c^2\,f\,g^3\,h^3+384\,a\,c^3\,d\,g^2\,h^4+20\,b^3\,c\,e\,g^2\,h^4-912\,a\,b\,c^2\,e\,g^2\,h^4-35\,b^4\,f\,g^2\,h^4-8808\,a\,b^2\,c\,f\,g^2\,h^4-9264\,a^2\,c^2\,f\,g^2\,h^4+64\,b^3\,c\,d\,g\,h^5-384\,a\,b\,c^2\,d\,g\,h^5-25\,b^4\,e\,g\,h^5+96\,a\,b^2\,c\,e\,g\,h^5+912\,a^2\,c^2\,e\,g\,h^5+120\,a\,b^3\,f\,g\,h^5+8352\,a^2\,b\,c\,f\,g\,h^5-35\,b^4\,d\,h^6+216\,a\,b^2\,c\,d\,h^6-240\,a^2\,c^2\,d\,h^6+60\,a\,b^3\,e\,h^6-336\,a^2\,b\,c\,e\,h^6-120\,a^2\,b^2\,f\,h^6-2400\,a^3\,c\,f\,h^6\right)+$$

$$\frac{1}{7680\,h^5\left(c\,g^2-b\,g\,h+a\,h^2\right)^4\left(g+h\,x\right)}\left(1280\,c^5\,f\,g^7+256\,c^5\,e\,g^6\,h-4736\,b\,c^4\,f\,g^6\,h+128\,c^5\,d\,g^5\,h^2-832\,b\,c^4\,e\,g^5\,h^2+6192\,b^2\,c^3\,f\,g^5\,h^2+5312\,a\,c^4\,f\,g^5\,h^2-320\,b\,c^4\,d\,g^4\,h^3+816\,b^2\,c^3\,e\,g^4\,h^3+1216\,a\,c^4\,e\,g^4\,h^3-3016\,b^3\,c^2\,f\,g^4\,h^3-14496\,a\,b\,c^3\,f\,g^4\,h^3+96\,b^2\,c^3\,d\,g^3\,h^4+896\,a\,c^4\,d\,g^3\,h^4-80\,b^3\,c^2\,e\,g^3\,h^4-2880\,a\,b\,c^3\,e\,g^3\,h^4+70\,b^4\,c\,f\,g^3\,h^4+11664\,a\,b^2\,c^2\,f\,g^3\,h^4+8544\,a^2\,c^3\,f\,g^3\,h^4+176\,b^3\,c^2\,d\,g^2\,h^5-1344\,a\,b\,c^3\,d\,g^2\,h^5-130\,b^4\,c\,e\,g^2\,h^5+1104\,a\,b^2\,c^2\,e\,g^2\,h^5+2784\,a^2\,c^3\,e\,g^2\,h^5+105\,b^5\,f\,g^2\,h^5-1000\,a\,b^3\,c\,f\,g^2\,h^5-15600\,a^2\,b\,c^2\,f\,g^2\,h^5-290\,b^4\,c\,d\,g\,h^6+1968\,a\,b^2\,c^2\,d\,g\,h^6-2592\,a^2\,c^3\,d\,g\,h^6+75\,b^5\,e\,g\,h^6-200\,a\,b^3\,c\,e\,g\,h^6-1488\,a^2\,b\,c^2\,e\,g\,h^6-360\,a\,b^4\,f\,g\,h^6+2640\,a^2\,b^2\,c\,f\,g\,h^6+7872\,a^3\,c^2\,f\,g\,h^6+105\,b^5\,d\,h^7-760\,a\,b^3\,c\,d\,h^7+1296\,a^2\,b\,c^2\,d\,h^7-180\,a\,b^4\,e\,h^7+1200\,a^2\,b^2\,c\,e\,h^7-1536\,a^3\,c^2\,e\,h^7+360\,a^2\,b^3\,f\,h^7-2400\,a^3\,b\,c\,f\,h^7\right)\Bigg)+$$

$$\left(\left(b^2-4\,a\,c\right)^2\left(24\,c^2\,d\,g^2-12\,b\,c\,e\,g^2+7\,b^2\,f\,g^2-4\,a\,c\,f\,g^2-24\,b\,c\,d\,g\,h+5\,b^2\,e\,g\,h+28\,a\,c\,e\,g\,h-24\,a\,b\,f\,g\,h+7\,b^2\,d\,h^2-4\,a\,c\,d\,h^2-12\,a\,b\,e\,h^2+24\,a^2\,f\,h^2\right)\left(a+x\left(b+c\,x\right)\right)^{3/2}\text{Log}[g+h\,x]\right)\Big/\left(1024\left(c\,g^2-b\,g\,h+a\,h^2\right)^{9/2}\left(a+b\,x+c\,x^2\right)^{3/2}\right)-$$

$$\left(\left(b^2-4\,a\,c\right)^2\left(24\,c^2\,d\,g^2-12\,b\,c\,e\,g^2+7\,b^2\,f\,g^2-4\,a\,c\,f\,g^2-24\,b\,c\,d\,g\,h+5\,b^2\,e\,g\,h+28\,a\,c\,e\,g\,h-24\,a\,b\,f\,g\,h+7\,b^2\,d\,h^2-4\,a\,c\,d\,h^2-12\,a\,b\,e\,h^2+24\,a^2\,f\,h^2\right)\left(a+x\left(b+c\,x\right)\right)^{3/2}\text{Log}\left[-b\,g+2\,a\,h-2\,c\,g\,x+b\,h\,x+2\sqrt{c\,g^2-b\,g\,h+a\,h^2}\,\sqrt{a+b\,x+c\,x^2}\right]\right)\Big/$$

$$\left(1024\left(c\,g^2-b\,g\,h+a\,h^2\right)^{9/2}\left(a+b\,x+c\,x^2\right)^{3/2}\right)$$

Problem 207: Result more than twice size of optimal antiderivative.

$$\int \frac{\left(a+b x+c x^2\right)^{3/2}\left(d+e x+f x^2\right)}{(g+h x)^8}\,dx$$

Optimal (type 3, 1062 leaves, 7 steps):

$$\begin{aligned}
&-\Bigg(\Bigg(\left(b^2-4 a c\right)\left(48 c^3 d g^3-8 c^2 g\left(3 b g(e g+3 d h)+a\left(f g^2-8 e g h+3 d h^2\right)\right)-\right.\\
&\qquad b h\left(24 a^2 f h^2-2 a b h(10 f g+7 e h)+b^2\left(5 f g^2+5 e g h+9 d h^2\right)\right)+\\
&\qquad \left.2 c\left(4 a^2 h^2(8 f g-e h)-2 a b h\left(13 f g^2+13 e g h-3 d h^2\right)+b^2 g\left(7 f g^2+10 e g h+21 d h^2\right)\right)\right)\\
&\qquad (b g-2 a h+(2 c g-b h) x)\sqrt{a+b x+c x^2}\Bigg)\Big/\left(1024\left(c g^2-b g h+a h^2\right)^5(g+h x)^2\right)\Bigg)+\\
&\Big(\Big(48 c^3 d g^3-8 c^2 g\left(3 b g(e g+3 d h)+a\left(f g^2-8 e g h+3 d h^2\right)\right)-\\
&\qquad b h\left(24 a^2 f h^2-2 a b h(10 f g+7 e h)+b^2\left(5 f g^2+5 e g h+9 d h^2\right)\right)+\\
&\qquad 2 c\left(4 a^2 h^2(8 f g-e h)-2 a b h\left(13 f g^2+13 e g h-3 d h^2\right)+b^2 g\left(7 f g^2+10 e g h+21 d h^2\right)\right)\Big)\\
&\qquad (b g-2 a h+(2 c g-b h) x)\left(a+b x+c x^2\right)^{3/2}\Big)\Big/\left(384\left(c g^2-b g h+a h^2\right)^4(g+h x)^4\right)-\\
&\frac{\left(f g^2-h(e g-d h)\right)\left(a+b x+c x^2\right)^{5/2}}{7 h\left(c g^2-b g h+a h^2\right)(g+h x)^7}+\\
&\Big(\left(2 c g\left(5 f g^2+h(2 e g-9 d h)\right)+h\left(14 a h(2 f g-e h)-b\left(19 f g^2-5 e g h-9 d h^2\right)\right)\right)\\
&\qquad \left(a+b x+c x^2\right)^{5/2}\Big)\Big/\\
&\left(84 h\left(c g^2-b g h+a h^2\right)^2(g+h x)^6\right)+\Big(\Big(4 c^2 g^2\left(5 f g^2+h(2 e g-51 d h)\right)-\\
&\qquad 7 h^2\left(24 a^2 f h^2-2 a b h(10 f g+7 e h)+b^2\left(5 f g^2+5 e g h+9 d h^2\right)\right)-\\
&\qquad 2 c h\left(3 b g\left(8 f g^2-15 e g h-34 d h^2\right)-2 a h\left(26 f g^2-61 e g h+12 d h^2\right)\right)\Big)\\
&\qquad \left(a+b x+c x^2\right)^{5/2}\Big)\Big/\left(840 h\left(c g^2-b g h+a h^2\right)^3(g+h x)^5\right)+\\
&\Bigg(\left(b^2-4 a c\right)^2\left(48 c^3 d g^3-8 c^2 g\left(3 b g(e g+3 d h)+a\left(f g^2-8 e g h+3 d h^2\right)\right)-\right.\\
&\qquad b h\left(24 a^2 f h^2-2 a b h(10 f g+7 e h)+b^2\left(5 f g^2+5 e g h+9 d h^2\right)\right)+\\
&\qquad \left.2 c\left(4 a^2 h^2(8 f g-e h)-2 a b h\left(13 f g^2+13 e g h-3 d h^2\right)+b^2 g\left(7 f g^2+10 e g h+21 d h^2\right)\right)\right)\\
&\qquad \text{ArcTanh}\left[\frac{b g-2 a h+(2 c g-b h) x}{2\sqrt{c g^2-b g h+a h^2}\sqrt{a+b x+c x^2}}\right]\Bigg)\Big/\left(2048\left(c g^2-b g h+a h^2\right)^{11/2}\right)
\end{aligned}$$

Result (type 3, 3059 leaves):

$$\begin{aligned}
&\frac{1}{a+b x+c x^2}(a+x(b+c x))^{3/2}\Bigg(-\frac{\left(c g^2-b g h+a h^2\right)\left(f g^2-e g h+d h^2\right)}{7 h^5(g+h x)^7}+\frac{1}{84 h^5(g+h x)^6}\\
&\qquad \left(58 c f g^3-44 c e g^2 h-43 b f g^2 h+30 c d g h^2+29 b e g h^2+28 a f g h^2-15 b d h^3-14 a e h^3\right)+\\
&\qquad \left(-1100 c^2 f g^4+568 c^2 e g^3 h+1632 b c f g^3 h-204 c^2 d g^2 h^2-750 b c e g^2 h^2-535 b^2 f g^2 h^2-\right.\\
&\qquad\quad 1256 a c f g^2 h^2+204 b c d g h^3+185 b^2 e g h^3+556 a c e g h^3+700 a b f g h^3-3 b^2 d h^4-\\
&\qquad\quad \left.192 a c d h^4-182 a b e h^4-168 a^2 f h^4\right)\Big/\left(840 h^5\left(c g^2-b g h+a h^2\right)(g+h x)^5\right)+\\
&\qquad \frac{1}{6720 h^5\left(c g^2-b g h+a h^2\right)^2(g+h x)^4}\left(8000 c^3 f g^5-2176 c^3 e g^4 h-17824 b c^2 f g^4 h+\right.
\end{aligned}$$

$$48 c^3 d g^3 h^2 + 4328 b c^2 e g^3 h^2 + 11702 b^2 c f g^3 h^2 + 15832 a c^2 f g^3 h^2 - 72 b c^2 d g^2 h^3 -$$
$$2140 b^2 c e g^2 h^3 - 4352 a c^2 e g^2 h^3 - 1905 b^3 f g^2 h^3 - 19396 a b c f g^2 h^3 - 30 b^2 c d g h^4 +$$
$$264 a c^2 d g h^4 + 15 b^3 e g h^4 + 4220 a b c e g h^4 + 3780 a b^2 f g h^4 + 7616 a^2 c f g h^4 +$$
$$27 b^3 d h^5 - 132 a b c d h^5 - 42 a b^2 e h^5 - 1960 a^2 c e h^5 - 1848 a^2 b f h^5) +$$

$$\frac{1}{13440 h^5 \left(c g^2 - b g h + a h^2\right)^3 (g + h x)^3} \left(-6400 c^4 f g^6 + 128 c^4 e g^5 h + 19072 b c^3 f g^5 h +\right.$$
$$96 c^4 d g^4 h^2 - 368 b c^3 e g^4 h^2 - 18852 b^2 c^2 f g^4 h^2 - 19216 a c^3 f g^4 h^2 - 192 b c^3 d g^3 h^3 +$$
$$288 b^2 c^2 e g^3 h^3 + 512 a c^3 e g^3 h^3 + 6152 b^3 c f g^3 h^3 + 37920 a b c^2 f g^3 h^3 - 36 b^2 c^2 d g^2 h^4 +$$
$$720 a c^3 d g^2 h^4 + 50 b^3 c e g^2 h^4 - 1128 a b c^2 e g^2 h^4 - 35 b^4 f g^2 h^4 - 18276 a b^2 c f g^2 h^4 -$$
$$19200 a^2 c^2 f g^2 h^4 + 132 b^3 c d g h^5 - 720 a b c^2 d g h^5 - 35 b^4 e g h^5 + 48 a b^2 c e g h^5 +$$
$$1392 a^2 c^2 e g h^5 + 140 a b^3 f g h^5 + 17808 a^2 b c f g h^5 - 63 b^4 d h^6 + 372 a b^2 c d h^6 -$$
$$\left. 384 a^2 c^2 d h^6 + 98 a b^3 e h^6 - 504 a^2 b c e h^6 - 168 a^2 b^2 f h^6 - 5376 a^3 c f h^6\right) +$$

$$\frac{1}{53760 h^5 \left(c g^2 - b g h + a h^2\right)^4 (g + h x)^2} \left(1280 c^5 f g^7 + 512 c^5 e g^6 h - 4992 b c^4 f g^6 h +\right.$$
$$384 c^5 d g^5 h^2 - 1728 b c^4 e g^5 h^2 + 6928 b^2 c^3 f g^5 h^2 + 5696 a c^4 f g^5 h^2 - 960 b c^4 d g^4 h^3 +$$
$$1696 b^2 c^3 e g^4 h^3 + 2816 a c^4 e g^4 h^3 - 3496 b^3 c^2 f g^4 h^3 - 17056 a b c^3 f g^4 h^3 +$$
$$96 b^2 c^3 d g^3 h^4 + 3456 a c^4 d g^3 h^4 + 80 b^3 c^2 e g^3 h^4 - 7360 a b c^3 e g^3 h^4 - 210 b^4 c f g^3 h^4 +$$
$$15504 a b^2 c^2 f g^3 h^4 + 10464 a^2 c^3 f g^3 h^4 + 816 b^3 c^2 d g^2 h^5 - 5184 a b c^3 d g^2 h^5 -$$
$$420 b^4 c e g^2 h^5 + 2304 a b^2 c^2 e g^2 h^5 + 9024 a^2 c^3 e g^2 h^5 + 175 b^5 f g^2 h^5 -$$
$$280 a b^3 c f g^2 h^5 - 24720 a^2 b c^2 f g^2 h^5 - 966 b^4 c d g h^6 + 6096 a b^2 c^2 d g h^6 -$$
$$7008 a^2 c^3 d g h^6 + 175 b^5 e g h^6 + 56 a b^3 c e g h^6 - 5520 a^2 b c^2 e g h^6 - 700 a b^4 f g h^6 +$$
$$3024 a^2 b^2 c f g h^6 + 16128 a^3 c^2 f g h^6 + 315 b^5 d h^7 - 2184 a b^3 c d h^7 + 3504 a^2 b c^2 d h^7 -$$
$$\left. 490 a b^4 e h^7 + 3024 a^2 b^2 c e h^7 - 3360 a^3 c^2 e h^7 + 840 a^2 b^3 f h^7 - 4704 a^3 b c f h^7\right) +$$

$$\frac{1}{107520 h^5 \left(c g^2 - b g h + a h^2\right)^5 (g + h x)} \left(2560 c^6 f g^8 + 1024 c^6 e g^7 h - 11264 b c^5 f g^7 h +\right.$$
$$768 c^6 d g^6 h^2 - 3968 b c^5 e g^6 h^2 + 18208 b^2 c^4 f g^6 h^2 + 13952 a c^5 f g^6 h^2 -$$
$$2304 b c^5 d g^5 h^3 + 4864 b^2 c^4 e g^5 h^3 + 6656 a c^5 e g^5 h^3 - 11744 b^3 c^3 f g^5 h^3 -$$
$$48512 a b c^4 f g^5 h^3 + 960 b^2 c^4 d g^4 h^4 + 7680 a c^5 d g^4 h^4 - 800 b^3 c^3 e g^4 h^4 -$$
$$20480 a b c^4 e g^4 h^4 + 700 b^4 c^2 f g^4 h^4 + 54720 a b^2 c^3 f g^4 h^4 + 32320 a^2 c^4 f g^4 h^4 +$$
$$1920 b^3 c^3 d g^3 h^5 - 15360 a b c^4 d g^3 h^5 - 1400 b^4 c^2 e g^3 h^5 + 12480 a b^2 c^3 e g^3 h^5 +$$
$$23680 a^2 c^4 e g^3 h^5 + 1120 b^5 c f g^3 h^5 - 11200 a b^3 c^2 f g^3 h^5 - 88320 a^2 b c^3 f g^3 h^5 -$$
$$5124 b^4 c^2 d g^2 h^6 + 35232 a b^2 c^3 d g^2 h^6 - 47424 a^2 c^4 d g^2 h^6 + 1750 b^5 c e g^2 h^6 -$$
$$8176 a b^3 c^2 e g^2 h^6 - 11808 a^2 b c^3 e g^2 h^6 - 525 b^6 f g^2 h^6 - 560 a b^4 c f g^2 h^6 +$$
$$27216 a^2 b^2 c^2 f g^2 h^6 + 59904 a^3 c^3 f g^2 h^6 + 3780 b^5 c d g h^7 - 27552 a b^3 c^2 d g h^7 +$$
$$47424 a^2 b c^3 d g h^7 - 525 b^6 e g h^7 - 980 a b^4 c e g h^7 + 25872 a^2 b^2 c^2 e g h^7 -$$
$$42432 a^3 c^3 e g h^7 + 2100 a b^5 f g h^7 - 8960 a^2 b^3 c f g h^7 - 17472 a^3 b c^2 f g h^7 - 945 b^6 d h^8 +$$
$$7560 a b^4 c d h^8 - 16464 a^2 b^2 c^2 d h^8 + 6144 a^3 c^3 d h^8 + 1470 a b^5 e h^8 - 10640 a^2 b^3 c e h^8 +$$
$$\left. 18144 a^3 b c^2 e h^8 - 2520 a^2 b^4 f h^8 + 16800 a^3 b^2 c f h^8 - 21504 a^4 c^2 f h^8\right)\Bigg) -$$

$$\frac{1}{2048 \left(c g^2 - b g h + a h^2\right)^{11/2} \left(a + b x + c x^2\right)^{3/2}}$$
$$\left(b^2 - 4 a c\right)^2$$
$$\left(-48 c^3 d g^3 + 24 b c^2 e g^3 - 14 b^2 c f g^3 + 8 a c^2 f g^3 +\right.$$
$$72 b c^2 d g^2 h - 20 b^2 c e g^2 h - 64 a c^2 e g^2 h + 5 b^3 f g^2 h +$$
$$52 a b c f g^2 h - 42 b^2 c d g h^2 + 24 a c^2 d g h^2 + 5 b^3 e g h^2 +$$
$$52 a b c e g h^2 - 20 a b^2 f g h^2 - 64 a^2 c f g h^2 + 9 b^3 d h^3 -$$
$$\left. 12 a b c d h^3 - 14 a b^2 e h^3 + 8 a^2 c e h^3 + 24 a^2 b f h^3\right)$$

$$\left(a+x\,(b+c\,x)\right)^{3/2}\,\text{Log}[g+h\,x]+$$

$$\frac{1}{2048\,\left(c\,g^2-b\,g\,h+a\,h^2\right)^{11/2}\,\left(a+b\,x+c\,x^2\right)^{3/2}}\left(b^2-4\,a\,c\right)^2\left(-48\,c^3\,d\,g^3+24\,b\,c^2\,e\,g^3-14\,b^2\,c\,f\,g^3+8\,a\,c^2\,f\,g^3+72\,b\,c^2\,d\,g^2\,h-20\,b^2\,c\,e\,g^2\,h-64\,a\,c^2\,e\,g^2\,h+5\,b^3\,f\,g^2\,h+52\,a\,b\,c\,f\,g^2\,h-42\,b^2\,c\,d\,g\,h^2+24\,a\,c^2\,d\,g\,h^2+5\,b^3\,e\,g\,h^2+52\,a\,b\,c\,e\,g\,h^2-20\,a\,b^2\,f\,g\,h^2-64\,a^2\,c\,f\,g\,h^2+9\,b^3\,d\,h^3-12\,a\,b\,c\,d\,h^3-14\,a\,b^2\,e\,h^3+8\,a^2\,c\,e\,h^3+24\,a^2\,b\,f\,h^3\right)\left(a+x\,(b+c\,x)\right)^{3/2}\,\text{Log}\left[-b\,g+2\,a\,h-2\,c\,g\,x+b\,h\,x+2\,\sqrt{c\,g^2-b\,g\,h+a\,h^2}\,\sqrt{a+b\,x+c\,x^2}\right]$$

Problem 259: Result unnecessarily involves complex numbers and more than twice size of optimal antiderivative.

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

Optimal (type 4, 906 leaves, 8 steps) :

$$\frac{1}{315\,c^3\,e^3}2\,\sqrt{d+e\,x}\,\left(8\,b^3\,C\,e^3-3\,b\,c\,e^2\,(b\,C\,d+4\,b\,B\,e-a\,C\,e)+c^3\,d\,\left(8\,C\,d^2-3\,e\,(4\,B\,d-7\,A\,e)\right)+3\,c^2\,e\,\left(a\,e\,(C\,d-5\,B\,e)-b\,\left(C\,d^2-2\,B\,d\,e-7\,A\,e^2\right)\right)+3\,c\,e\,\left(8\,b^2\,C\,e^2-c\,e\,(b\,C\,d+12\,b\,B\,e+7\,a\,C\,e)-c^2\,\left(2\,C\,d^2-3\,e\,(B\,d+7\,A\,e)\right)\right)\,x\right)\,\sqrt{a+b\,x+c\,x^2}-\frac{2\,(2\,c\,C\,d-3\,B\,c\,e+2\,b\,C\,e)\,\sqrt{d+e\,x}\,\left(a+b\,x+c\,x^2\right)^{3/2}}{21\,c^2\,e}+\frac{2\,C\,(d+e\,x)^{3/2}\,\left(a+b\,x+c\,x^2\right)^{3/2}}{9\,c\,e}+$$

$$\frac{1}{315\,c^4\,e^4\,\sqrt{\frac{c\,(d+e\,x)}{2\,c\,d-\left(b+\sqrt{b^2-4\,a\,c}\right)\,e}}\,\sqrt{a+b\,x+c\,x^2}}\sqrt{2}\,\sqrt{b^2-4\,a\,c}\,\left(2\,\left(4\,c^2\,d^2-b^2\,e^2-\frac{3}{2}\,c\,e\,(b\,d-2\,a\,e)\right)\left(8\,b^2\,C\,e^2-c\,e\,(b\,C\,d+12\,b\,B\,e+7\,a\,C\,e)-c^2\,\left(2\,C\,d^2-3\,e\,(B\,d+7\,A\,e)\right)\right)-5\,c\,e\,(2\,c\,d-b\,e)\left(6\,b^2\,C\,d\,e+c\,e\,(21\,A\,c\,d-5\,a\,C\,d-3\,a\,B\,e)+b\,\left(2\,a\,C\,e^2-c\,d\,(C\,d+9\,B\,e)\right)\right)\right)\,\sqrt{d+e\,x}\,\sqrt{-\frac{c\,\left(a+b\,x+c\,x^2\right)}{b^2-4\,a\,c}}\,\text{EllipticE}\left[\text{ArcSin}\left[\frac{\sqrt{\frac{b+\sqrt{b^2-4\,a\,c}+2\,c\,x}{\sqrt{b^2-4\,a\,c}}}}{\sqrt{2}}\right],-\frac{2\,\sqrt{b^2-4\,a\,c}\,e}{2\,c\,d-\left(b+\sqrt{b^2-4\,a\,c}\right)\,e}\right]-$$

$$\left(2\,\sqrt{2}\,\sqrt{b^2-4\,a\,c}\,\left(c\,d^2-b\,d\,e+a\,e^2\right)\,\left(8\,b^3\,C\,e^3-3\,c^2\,e^2\,(b\,B\,d+2\,a\,C\,d-7\,A\,b\,e-10\,a\,B\,e)+3\,b\,c\,e^2\,(b\,C\,d-4\,b\,B\,e-9\,a\,C\,e)-2\,c^3\,d\,\left(8\,C\,d^2-3\,e\,(4\,B\,d-7\,A\,e)\right)\right)\sqrt{\frac{c\,(d+e\,x)}{2\,c\,d-\left(b+\sqrt{b^2-4\,a\,c}\right)\,e}}\,\sqrt{-\frac{c\,\left(a+b\,x+c\,x^2\right)}{b^2-4\,a\,c}}\,\text{EllipticF}\left[\text{ArcSin}\left[\frac{\sqrt{\frac{b+\sqrt{b^2-4\,a\,c}+2\,c\,x}{\sqrt{b^2-4\,a\,c}}}}{\sqrt{2}}\right],-\frac{2\,\sqrt{b^2-4\,a\,c}\,e}{2\,c\,d-\left(b+\sqrt{b^2-4\,a\,c}\right)\,e}\right]\right)\Bigg/\left(315\,c^4\,e^4\,\sqrt{d+e\,x}\,\sqrt{a+b\,x+c\,x^2}\right)$$

Result (type 4, 15 669 leaves):

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

$$C d e^2 - 12 b^2 B c e^3 + 21 A b c^2 e^3 + 30 a B c^2 e^3 + 8 b^3 C e^3 - 27 a b c C e^3\Big) + \frac{1}{315 c^2 e^2}$$

$$2\left(-6 c^2 C d^2 + 9 B c^2 d e + 2 b c C d e + 9 b B c e^2 + 63 A c^2 e^2 - 6 b^2 C e^2 + 14 a c C e^2\right) x +$$

$$\left.\frac{2 \left(c C d + 9 B c e + b C e\right) x^2}{63 c e} + \frac{2 C x^3}{9}\right) \sqrt{a + x \left(b + c x\right)} -$$

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

$$\left(16 c^4 C d^4 - 24 B c^4 d^3 e - 8 b c^3 C d^3 e + 15 b B c^3 d^2 e^2 + 42 A c^4 d^2 e^2 - 6 b^2 c^2 C d^2 e^2 + 18 a c^3 C d^2\right.$$
$$e^2 + 15 b^2 B c^2 d e^3 - 42 A b c^3 d e^3 - 48 a B c^3 d e^3 - 8 b^3 c C d e^3 + 30 a b c^2 C d e^3 - 24 b^3 B c e^4 +$$
$$\left.42 A b^2 c^2 e^4 + 87 a b B c^2 e^4 - 126 a A c^3 e^4 + 16 b^4 C e^4 - 72 a b^2 c C e^4 + 42 a^2 c^2 C e^4\right)$$

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

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

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

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

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

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

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

$$\left.\left.\left.\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\right]\right)\right)\Bigg/\left(\left(c\,d^2-b\,d\,e+a\,e^2\right)\right.$$

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

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

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

$$\left.\left.\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\right],\;\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\right]-\text{EllipticF}\left[i\right.$$

$$\left.\left.\left.\text{ArcSinh}\left[\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\right],\;\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\right]\right)\right)\Bigg/$$

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

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

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

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

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

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

$$\left.\left.\left.\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]\right)\right)\Big/\left(\left(c d^2-b d e+a e^2\right)\right.$$

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

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

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

$$\left.\left.\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right],\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]-\text{EllipticF}\left[i\right.$$

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

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

$$\sqrt{c+\frac{c\,d^2-b\,d\,e+a\,e^2}{(d+e\,x)^2}+\frac{-2\,c\,d+b\,e}{d+e\,x}}\Bigg)+\Bigg(21\,\mathrm{i}\,A\,c^4\,d^2\,e^2$$

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

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

$$\frac{\sqrt{2}\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\Big],\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\Big]-\text{EllipticF}\Big[\mathrm{i}$$

$$\text{ArcSinh}\Big[\frac{\sqrt{2}\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\Big],\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\Big]\Bigg)\Bigg)\Bigg/$$

$$\Bigg(\sqrt{2}\,(c\,d^2-b\,d\,e+a\,e^2)\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}$$

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

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

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

$$\frac{\sqrt{2}\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\Big],\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\Big]-\text{EllipticF}\Big[\mathrm{i}$$

$$\text{ArcSinh}\Big[\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\Big],\ \frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\Big]\Bigg)\Bigg)\Bigg/$$

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

$$\sqrt{c+\frac{c\,d^2-b\,d\,e+a\,e^2}{(d+e\,x)^2}+\frac{-2\,c\,d+b\,e}{d+e\,x}}\Bigg)+\Bigg(9\,\mathbb{i}\,a\,c^3\,C\,d^2\,e^2$$

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

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

$$\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\Big],\ \frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\Big]-\text{EllipticF}\Big[\mathbb{i}$$

$$\text{ArcSinh}\Big[\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\Big],\ \frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\Big]\Bigg)\Bigg)\Bigg/$$

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

$$\sqrt{c+\frac{c\,d^2-b\,d\,e+a\,e^2}{(d+e\,x)^2}+\frac{-2\,c\,d+b\,e}{d+e\,x}}\Bigg)+\Bigg(15\,\mathbb{i}\,b^2\,B\,c^2\,d\,e^3$$

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

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

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

$$\left.\sqrt{c+\frac{c d^2-b d e+a e^2}{(d+e x)^2}+\frac{-2 c d+b e}{d+e x}}\right)-\Bigg(21\,\mathrm{i}\,A\,b\,c^3\,d\,e^3$$

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

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

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

$$\sqrt{c+\frac{c\,d^2-b\,d\,e+a\,e^2}{(d+e\,x)^2}+\frac{-2\,c\,d+b\,e}{d+e\,x}}\Bigg)-\Bigg(12\,\mathrm{i}\,\sqrt{2}\,a\,B\,c^3\,d\,e^3$$

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

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

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

$$\text{EllipticF}\left[\mathrm{i}\,\text{ArcSinh}\left[\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\right],\right.$$

$$\left.\left.\left.\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\right]\right)\right)\Big/\left((c\,d^2-b\,d\,e+a\,e^2)\right.$$

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

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

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

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

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

$$\text{EllipticF}\left[\mathbb{i}\,\text{ArcSinh}\left[\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\right],\right.$$

$$\left.\left.\left.\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\right]\right)\right)\Big/\left(\left(c\,d^2-b\,d\,e+a\,e^2\right)\right.$$

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

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

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

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

$$\left.\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\right],\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\right]-\text{EllipticF}\left[\mathbb{i}\right.$$

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

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

$$\sqrt{c+\frac{c d^2-b d e+a e^2}{(d+e x)^2}+\frac{-2 c d+b e}{d+e x}}\Bigg)-\Bigg(6\, i\, \sqrt{2}\, b^3 B c e^4$$

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

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

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

$$\text{EllipticF}\Big[i\, \text{ArcSinh}\Big[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\Big],$$

$$\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\Big]\Bigg)\Bigg)\Bigg/\Bigg(\left(c d^2-b d e+a e^2\right)$$

$$\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}\sqrt{c+\frac{c d^2-b d e+a e^2}{(d+e x)^2}+\frac{-2 c d+b e}{d+e x}}\Bigg)+\Bigg(21\, i$$

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

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

$$\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\Big],\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\Big]-\text{EllipticF}\Big[i$$

$$\text{ArcSinh}\left[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right],\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]\Bigg)\Bigg)\Bigg/$$

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

$$\left.\sqrt{c+\frac{c d^2-b d e+a e^2}{(d+e x)^2}+\frac{-2 c d+b e}{d+e x}}\right)+\Bigg(87\,\mathrm{i}\,a\,b\,B\,c^2 e^4$$

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

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

$$\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\Big],\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\Big]-\text{EllipticF}\Big[\mathrm{i}$$

$$\text{ArcSinh}\left[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right],\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]\Bigg)\Bigg)\Bigg/$$

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

$$\left.\sqrt{c+\frac{c d^2-b d e+a e^2}{(d+e x)^2}+\frac{-2 c d+b e}{d+e x}}\right)-\Bigg(63\,\mathrm{i}\,a\,A\,c^3 e^4$$

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

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

$$\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\Big],\;\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\Big]-\text{EllipticF}\Big[\mathrm{i}$$

$$\text{ArcSinh}\Big[\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\Big],\;\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\Big]\Bigg)\Bigg)\Big/$$

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

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

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

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

$$\Bigg(\text{EllipticE}\Big[\mathrm{i}\,\text{ArcSinh}\Big[\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\Big],\;\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\Big]-$$

$$\text{EllipticF}\Big[\mathrm{i}\,\text{ArcSinh}\Big[\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\Big],$$

$$\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\Big]\Bigg)\Bigg)\Big/\Bigg(\left(c\,d^2-b\,d\,e+a\,e^2\right)$$

$$\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}} \sqrt{c+\frac{c d^2-b d e+a e^2}{(d+e x)^2}+\frac{-2 c d+b e}{d+e x}}\Bigg) -$$

$$\Bigg(18 \, i \sqrt{2} \, a b^2 c C e^4 \left(2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}\right)$$

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

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

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

$$\text{EllipticF}\Big[i \, \text{ArcSinh}\Big[\frac{\sqrt{2} \sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\Big],$$

$$\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\Big]\Bigg)\Bigg) \Bigg/ \Bigg(\left(c d^2-b d e+a e^2\right)$$

$$\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}} \sqrt{c+\frac{c d^2-b d e+a e^2}{(d+e x)^2}+\frac{-2 c d+b e}{d+e x}}\Bigg) +$$

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

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

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

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

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

$$\left.\left.\left.\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]\right)\right)\Big/\left(\sqrt{2}\left(c d^2-b d e+a e^2\right)\right.$$

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

$$\left(8\,i\sqrt{2}\,c^4 C d^3\sqrt{1-\frac{2\left(c d^2-b d e+a e^2\right)}{\left(2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}\right)(d+e x)}}\right.$$

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

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

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

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

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

$$\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\right],\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\right]\Bigg/$$

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

$$\text{EllipticF}\left[\text{i ArcSinh}\left[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right],\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]\Bigg/$$

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

$$\left(21\,\text{i}\,A\,b\,c^3 e^3\sqrt{1-\frac{2\left(c d^2-b d e+a e^2\right)}{\left(2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}\right)(d+e x)}}\right.$$

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Problem 260: Result unnecessarily involves complex numbers and more than twice size of optimal antiderivative.

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

Optimal (type 4, 668 leaves, 7 steps):

$$-\frac{1}{105 c^2 e^3}2 \sqrt{d+e x} \left(5 c e (3 b C d-7 A c e+a C e)-(4 c d-b e) (6 c C d-7 B c e+4 b C e)+3 c e (6 c C d-7 B c e+4 b C e) x\right) \sqrt{a+b x+c x^2}+\frac{2 C \sqrt{d+e x} \left(a+b x+c x^2\right)^{3/2}}{7 c e}+\left(\sqrt{2} \sqrt{b^2-4 a c} \left(5 c e (2 c d-b e) (3 b C d-7 A c e+a C e)-(6 c C d-7 B c e+4 b C e) \left(8 c^2 d^2-2 b^2 e^2-3 c e (b d-2 a e)\right)\right) \sqrt{d+e x} \sqrt{-\frac{c \left(a+b x+c x^2\right)}{b^2-4 a c}} \text{EllipticE}\left[\text{ArcSin}\left[\frac{\sqrt{\frac{b+\sqrt{b^2-4 a c}+2 c x}{\sqrt{b^2-4 a c}}}}{\sqrt{2}}\right],-\frac{2 \sqrt{b^2-4 a c}\, e}{2 c d-\left(b+\sqrt{b^2-4 a c}\right) e}\right]\right) \Big/ \left(105 c^3 e^4 \sqrt{\frac{c (d+e x)}{2 c d-\left(b+\sqrt{b^2-4 a c}\right) e}} \sqrt{a+b x+c x^2}\right)+\left(2 \sqrt{2} \sqrt{b^2-4 a c} \left(c d^2-b d e+a e^2\right) \left(4 b^2 C e^2+c e (8 b C d-7 b B e-10 a C e)+c^2 \left(48 C d^2-14 e (4 B d-5 A e)\right)\right) \sqrt{\frac{c (d+e x)}{2 c d-\left(b+\sqrt{b^2-4 a c}\right) e}} \sqrt{-\frac{c \left(a+b x+c x^2\right)}{b^2-4 a c}} \text{EllipticF}\left[\text{ArcSin}\left[\frac{\sqrt{\frac{b+\sqrt{b^2-4 a c}+2 c x}{\sqrt{b^2-4 a c}}}}{\sqrt{2}}\right],-\frac{2 \sqrt{b^2-4 a c}\, e}{2 c d-\left(b+\sqrt{b^2-4 a c}\right) e}\right]\right) \Big/ \left(105 c^3 e^4 \sqrt{d+e x} \sqrt{a+b x+c x^2}\right)$$

Result (type 4, 9965 leaves):

$$\sqrt{d+e\,x}\,\left(\frac{1}{105\,c^2\,e^3}2\,\left(24\,c^2\,C\,d^2-28\,B\,c^2\,d\,e-5\,b\,c\,C\,d\,e+7\,b\,B\,c\,e^2+35\,A\,c^2\,e^2-4\,b^2\,C\,e^2+10\,a\,c\,C\,e^2\right)+\right.$$

$$\left.\frac{2\,\left(-6\,c\,C\,d+7\,B\,c\,e+b\,C\,e\right)\,x}{35\,c\,e^2}+\frac{2\,C\,x^2}{7\,e}\right)$$

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

$$\left(\left(\left(-48\,c^3\,C\,d^3+56\,B\,c^3\,d^2\,e+16\,b\,c^2\,C\,d^2\,e-21\,b\,B\,c^2\,d\,e^2-70\,A\,c^3\,d\,e^2+9\,b^2\,c\,C\,d\,e^2-\right.\right.\right.$$

$$\left.26\,a\,c^2\,C\,d\,e^2-14\,b^2\,B\,c\,e^3+35\,A\,b\,c^2\,e^3+42\,a\,B\,c^2\,e^3+8\,b^3\,C\,e^3-29\,a\,b\,c\,C\,e^3\right)$$

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

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

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

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

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

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

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

$$\text{EllipticF}\left[\mathbb{i}\,\text{ArcSinh}\left[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right],\right.$$

$$\left.\left.\left.\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]\right)\right)\Big/\left(\left(c d^2-b d e+a e^2\right)\right.$$

$$\left.\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}\sqrt{c+\frac{c d^2-b d e+a e^2}{(d+e x)^2}+\frac{-2 c d+b e}{d+e x}}\right)-\left(14\,\mathbb{i}\sqrt{2}\right.$$

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

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

$$\left.\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right],\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]-\text{EllipticF}\left[\mathbb{i}\right.$$

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

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

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

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

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

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

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

$$\left.\left.\left.\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]\right)\right) \Big/ \left(\left(c d^2-b d e+a e^2\right)\right.$$

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

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

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

$$\left.\frac{\sqrt{2} \sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right], \frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]-\text{EllipticF}\left[\text{i}\right.$$

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

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

$$\sqrt{c+\frac{c\,d^2-b\,d\,e+a\,e^2}{(d+e\,x)^2}+\frac{-2\,c\,d+b\,e}{d+e\,x}}\Bigg)+\Bigg(35\,\mathrm{i}\,A\,c^3\,d\,e^2$$

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

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

$$\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\Big],\,\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\Big]-\text{EllipticF}\Big[\mathrm{i}$$

$$\text{ArcSinh}\Big[\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\Big],\,\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\Big]\Bigg)\Bigg)\Bigg/$$

$$\Bigg(\sqrt{2}\,(c\,d^2-b\,d\,e+a\,e^2)\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}$$

$$\sqrt{c+\frac{c\,d^2-b\,d\,e+a\,e^2}{(d+e\,x)^2}+\frac{-2\,c\,d+b\,e}{d+e\,x}}\Bigg)-\Bigg(9\,\mathrm{i}\,b^2\,c\,C\,d\,e^2$$

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

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

$$\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\Big],\,\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\Big]-\text{EllipticF}\Big[\mathrm{i}$$

$$\text{ArcSinh}\left[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right],\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\Big]\Bigg)\Bigg)\Bigg/$$

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

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

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

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

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

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

$$\left.\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]\Bigg)\Bigg)\Bigg/\left(\sqrt{2}\left(c d^2-b d e+a e^2\right)\right.$$

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

$$\Bigg(7\, i\, b^2 B c e^3\left(2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}\right)\sqrt{1-\frac{2\left(c d^2-b d e+a e^2\right)}{\left(2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}\right)(d+e x)}}$$

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

$$\left(\sqrt{2}\left(c d^2-b d e+a e^2\right)\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}\sqrt{c+\frac{c d^2-b d e+a e^2}{(d+e x)^2}+\frac{-2 c d+b e}{d+e x}}\right)-\left(35 i A b c^2 e^3\right.$$

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

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

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

$$\sqrt{c+\frac{c d^2-b d e+a e^2}{(d+e x)^2}+\frac{-2 c d+b e}{d+e x}}\Bigg)-\Bigg(21\,i\,a B c^2 e^3$$

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

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

$$\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\Big],\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\Big]-\text{EllipticF}\Big[i$$

$$\text{ArcSinh}\Big[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\Big],\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\Big]\Bigg)\Bigg)\Bigg/$$

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

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

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

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

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

$$\text{EllipticF}\left[\mathrm{i}\,\text{ArcSinh}\left[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right],\right.$$

$$\left.\left.\left.\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]\right)\right)\Bigg/\left(\left(c d^2-b d e+a e^2\right)\right.$$

$$\left.\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}\,\sqrt{c+\frac{c d^2-b d e+a e^2}{(d+e x)^2}+\frac{-2 c d+b e}{d+e x}}\right)+\left(29\,\mathrm{i}\right.$$

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

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

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

$$\text{EllipticF}\left[\mathrm{i}\,\text{ArcSinh}\left[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right],\right.$$

$$\left.\left.\left.\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]\right)\right)\Bigg/\left(2\sqrt{2}\left(c d^2-b d e+a e^2\right)\right.$$

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

$$\left(24\,\mathrm{i}\sqrt{2}\,c^3 C d^2\sqrt{1-\frac{2\left(c d^2-b d e+a e^2\right)}{\left(2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}\right)(d+e x)}}\right.$$

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

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

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

$$\left(28\,\mathrm{i}\sqrt{2}\,B c^3 d e\sqrt{1-\frac{2\left(c d^2-b d e+a e^2\right)}{\left(2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}\right)(d+e x)}}\right.$$

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

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

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

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

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

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

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

$$\left(7\,\mathrm{i}\,b\,B\,c^2\,e^2\,\sqrt{1-\frac{2\,\left(c\,d^2-b\,d\,e+a\,e^2\right)}{\left(2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}\right)\,\left(d+e\,x\right)}}\right.$$

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

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

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

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

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

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

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

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

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

$$\left.\text{EllipticF}\left[\mathrm{i}\,\text{ArcSinh}\left[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right],\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]\right/$$

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

$$\left(5\,\mathrm{i}\sqrt{2}\,a c^2 C e^2\sqrt{1-\frac{2\left(c d^2-b d e+a e^2\right)}{\left(2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}\right)(d+e x)}}\right.$$

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

$$\left.\text{EllipticF}\left[\mathrm{i}\,\text{ArcSinh}\left[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right],\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]\right/$$

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

Problem 261: Result unnecessarily involves complex numbers and more than twice size of optimal antiderivative.

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

Optimal (type 4, 749 leaves, 7 steps):

$$-\left(\left(2\sqrt{d+e x}\left(b C e^2(b d-a e)+\right.\right.\right.$$

$$c^2 d\left(24 C d^2-5 e(4 B d-3 A e)\right)+c e\left(a e(9 C d-5 B e)-5 b\left(5 C d^2-4 B d e+3 A e^2\right)\right)+$$

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

$$\left(15\,c\,e^3\left(c\,d^2-b\,d\,e+a\,e^2\right)\right)\Big)-\frac{2\left(C\,d^2-e\left(B\,d-A\,e\right)\right)\left(a+b\,x+c\,x^2\right)^{3/2}}{e\left(c\,d^2-b\,d\,e+a\,e^2\right)\sqrt{d+e\,x}}-$$

$$\Bigg(\sqrt{2}\,\sqrt{b^2-4\,a\,c}\,\left(2\,b^2\,C\,e^2+c\,e\left(8\,b\,C\,d-5\,b\,B\,e-6\,a\,C\,e\right)-c^2\left(48\,C\,d^2-10\,e\left(4\,B\,d-3\,A\,e\right)\right)\right)$$

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

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

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

$$\Bigg(2\sqrt{2}\,\sqrt{b^2-4\,a\,c}\,\left(b\,C\,e^2\left(b\,d-a\,e\right)-2\,c^2\,d\left(24\,C\,d^2-5\,e\left(4\,B\,d-3\,A\,e\right)\right)-\right.$$

$$\left.c\,e\left(2\,a\,e\left(9\,C\,d-5\,B\,e\right)-b\left(32\,C\,d^2-5\,e\left(5\,B\,d-3\,A\,e\right)\right)\right)\right)\sqrt{\frac{c\left(d+e\,x\right)}{2\,c\,d-\left(b+\sqrt{b^2-4\,a\,c}\right)e}}$$

$$\sqrt{-\frac{c\left(a+b\,x+c\,x^2\right)}{b^2-4\,a\,c}}\,\text{EllipticF}\left[\text{ArcSin}\left[\frac{\sqrt{\frac{b+\sqrt{b^2-4\,a\,c}+2\,c\,x}{\sqrt{b^2-4\,a\,c}}}}{\sqrt{2}}\right],-\frac{2\sqrt{b^2-4\,a\,c}\,e}{2\,c\,d-\left(b+\sqrt{b^2-4\,a\,c}\right)e}\right]\Bigg)\Big/$$

$$\left(15\,c^2\,e^4\sqrt{d+e\,x}\,\sqrt{a+b\,x+c\,x^2}\right)$$

Result (type 4, 13 240 leaves) :

$$\sqrt{d+e x}\ \sqrt{a+x\,(b+c x)}\ \left(\frac{2\,(-9\,c\,C\,d+5\,B\,c\,e+b\,C\,e)}{15\,c\,e^3}+\frac{2\,C\,x}{5\,e^2}-\frac{2\,(C\,d^2-B\,d\,e+A\,e^2)}{e^3\,(d+e x)}\right)+$$

$$\frac{1}{15\,c\,e^5\,\sqrt{a+b x+c x^2}}$$

$$\sqrt{a+x\,(b+c x)}\ \left(\left(2\,(48\,c^2\,C\,d^2-40\,B\,c^2\,d\,e-8\,b\,c\,C\,d\,e+5\,b\,B\,c\,e^2+30\,A\,c^2\,e^2-2\,b^2\,C\,e^2+6\,a\,c\,C\,e^2)\right.\right.$$

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

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

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

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

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

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

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

$$\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\Big]\Big)\Big)\Big/\Big(\left(c\,d^2-b\,d\,e+a\,e^2\right)$$

$$\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}\;\sqrt{c+\frac{c\,d^2-b\,d\,e+a\,e^2}{\left(d+e\,x\right)^2}+\frac{-2\,c\,d+b\,e}{d+e\,x}}\Big)-\Big(10\,\mathrm{i}\,\sqrt{2}$$

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

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

$$\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\Big],\,\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\Big]-\text{EllipticF}\Big[\mathrm{i}$$

$$\text{ArcSinh}\Big[\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\Big],\,\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\Big]\Big)\Big)\Big/$$

$$\Big(\left(c\,d^2-b\,d\,e+a\,e^2\right)\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}$$

$$\sqrt{c+\frac{c\,d^2-b\,d\,e+a\,e^2}{\left(d+e\,x\right)^2}+\frac{-2\,c\,d+b\,e}{d+e\,x}}\Big)-\Big(14\,\mathrm{i}\,\sqrt{2}\,b\,c^2\,C\,d^3\,e$$

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

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

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

$$\text{EllipticF}\left[\mathbb{i}\,\text{ArcSinh}\left[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right],\right.$$

$$\left.\left.\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]\right)\right)\Bigg/\left(\left(c d^2-b d e+a e^2\right)\right.$$

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

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

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

$$\left.\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right],\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]-\text{EllipticF}\left[\mathbb{i}\right.$$

$$\left.\left.\text{ArcSinh}\left[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right],\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]\right)\right)\Bigg/$$

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

$$\sqrt{c+\frac{c\,d^2-b\,d\,e+a\,e^2}{(d+e\,x)^2}+\frac{-2\,c\,d+b\,e}{d+e\,x}}\Bigg)+\Bigg(15\,i\,A\,c^3\,d^2\,e^2$$

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

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

$$\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\Big],\,\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\Big]-\text{EllipticF}\Big[i$$

$$\text{ArcSinh}\Big[\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\Big],\,\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\Big]\Bigg)\Bigg)\Big/$$

$$\Bigg(\sqrt{2}\,(c\,d^2-b\,d\,e+a\,e^2)\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}$$

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

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

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

$$\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\Big],\,\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\Big]-\text{EllipticF}\Big[i$$

$$\text{ArcSinh}\Big[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\Big],\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\Big]\Bigg)\Bigg)\Bigg/$$

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

$$\sqrt{c+\frac{c d^2-b d e+a e^2}{(d+e x)^2}+\frac{-2 c d+b e}{d+e x}}\Bigg)+\Bigg(27\, \mathbb{i}\, a c^2 C d^2 e^2$$

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

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

$$\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\Big],\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\Big]-\text{EllipticF}\Big[\mathbb{i}$$

$$\text{ArcSinh}\Big[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\Big],\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\Big]\Bigg)\Bigg)\Bigg/$$

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

$$\sqrt{c+\frac{c d^2-b d e+a e^2}{(d+e x)^2}+\frac{-2 c d+b e}{d+e x}}\Bigg)-\Bigg(5\, \mathbb{i}\, b^2 B c d e^3$$

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

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

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

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

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

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

$$\text{EllipticF}\left[\mathrm{i}\,\text{ArcSinh}\left[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right],\right.$$

$$\left.\left.\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]\right)\right)\Bigg/\left(\sqrt{2}\left(c d^2-b d e+a e^2\right)\right.$$

$$\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}\ \sqrt{c+\frac{c d^2-b d e+a e^2}{(d+e x)^2}+\frac{-2 c d+b e}{d+e x}}\Bigg)-$$

$$\Bigg(10\,\mathrm{i}\,\sqrt{2}\,a B c^2 d e^3\left(2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}\right)$$

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

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

$$\Bigg(\mathrm{EllipticE}\Big[\mathrm{i}\,\mathrm{ArcSinh}\Big[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\Big],\ \frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\Big]-$$

$$\mathrm{EllipticF}\Big[\mathrm{i}\,\mathrm{ArcSinh}\Big[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\Big],$$

$$\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\Big]\Bigg)\Bigg)\Big/\Bigg(\left(c d^2-b d e+a e^2\right)$$

$$\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}\ \sqrt{c+\frac{c d^2-b d e+a e^2}{(d+e x)^2}+\frac{-2 c d+b e}{d+e x}}\Bigg)+$$

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

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

$$\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\Big],\ \frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\Big]-\text{EllipticF}\Big[\mathrm{i}$$

$$\text{ArcSinh}\Big[\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\Big],\ \frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\Big]\Bigg)\Bigg)\Bigg/$$

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

$$\sqrt{c+\frac{c\,d^2-b\,d\,e+a\,e^2}{(d+e\,x)^2}+\frac{-2\,c\,d+b\,e}{d+e\,x}}\Bigg)-\Bigg(7\,\mathrm{i}\,a\,b\,c\,C\,d\,e^3$$

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

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

$$\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\Big],\ \frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\Big]-\text{EllipticF}\Big[\mathrm{i}$$

$$\text{ArcSinh}\Big[\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\Big],\ \frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\Big]\Bigg)\Bigg)\Bigg/$$

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

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

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

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

$$\left.\frac{\sqrt{2} \sqrt{-\frac{c d^2 - b d e + a e^2}{2 c d - b e - \sqrt{b^2 e^2 - 4 a c e^2}}}}{\sqrt{d + e x}}\right], \frac{2 c d - b e - \sqrt{b^2 e^2 - 4 a c e^2}}{2 c d - b e + \sqrt{b^2 e^2 - 4 a c e^2}}\right] - \text{EllipticF}\left[i\right.$$

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

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

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

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

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

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

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

$$\left.\left.\left.\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\right]\right)\right)\Bigg/\left(\sqrt{2}\,\left(c\,d^2-b\,d\,e+a\,e^2\right)\right.$$

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

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

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

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

$$\mathrm{EllipticF}\left[\mathrm{i}\,\mathrm{ArcSinh}\left[\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\right],\right.$$

$$\left.\left.\left.\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\right]\right)\right)\Bigg/\left(\sqrt{2}\,\left(c\,d^2-b\,d\,e+a\,e^2\right)\right.$$

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

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

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

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

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

$$\left.\left.\left.\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]\right)\right)\Big/\left(\sqrt{2}\left(c d^2-b d e+a e^2\right)\right.$$

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

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

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

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

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

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

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

$$\text{EllipticF}\left[\mathbb{i}\,\text{ArcSinh}\left[\frac{\sqrt{2}\,\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right],\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]\Bigg/$$

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

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

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

$$\left.\text{EllipticF}\left[\mathbb{i}\,\text{ArcSinh}\left[\frac{\sqrt{2}\,\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right],\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]\right)\Bigg/$$

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

$$\left(25\,\mathbb{i}\,b B c^2 d e^2\,\sqrt{1-\frac{2\left(c d^2-b d e+a e^2\right)}{\left(2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}\right)(d+e x)}}\right.$$

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

$$\left.\text{EllipticF}\left[\mathbb{i}\,\text{ArcSinh}\left[\frac{\sqrt{2}\,\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right],\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]\right)\Bigg/$$

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Problem 262: Result unnecessarily involves complex numbers and more than twice size of optimal antiderivative.

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

Optimal (type 4, 712 leaves, 7 steps):

$$-\left(\left(2\left(e\left(b\, d-a\, e\right)\left(7\, C\, d-3\, B\, e\right)-c\, d\left(8\, C\, d^2-e\left(4\, B\, d-A\, e\right)\right)+\right.\right.\right.$$

$$\left.\left.e^2\left(B\, c\, d+b\, C\, d-\frac{2\, c\, C\, d^2}{e}-A\, c\, e-a\, C\, e\right)x\right)\sqrt{a+b\, x+c\, x^2}\right)\Big/$$

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

$$\left(\sqrt{2}\sqrt{b^2-4\, a\, c}\left(2\left(4\, c\, d-\frac{b\, e}{2}\right)\left(B\, c\, d+b\, C\, d-\frac{2\, c\, C\, d^2}{e}-A\, c\, e-a\, C\, e\right)+\right.\right.$$

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

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

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

$$\left(2 \sqrt{2} \sqrt{b^2-4 a c} \left(e \left(8 b C d-3 b B e-2 a C e\right)-2 c \left(8 C d^2-e (4 B d-A e)\right)\right)\right.$$

$$\sqrt{\frac{c (d+e x)}{2 c d-\left(b+\sqrt{b^2-4 a c}\right) e}} \sqrt{-\frac{c \left(a+b x+c x^2\right)}{b^2-4 a c}}\, \text{EllipticF}\left[\text{ArcSin}\left[\frac{\sqrt{\frac{b+\sqrt{b^2-4 a c}+2 c x}{\sqrt{b^2-4 a c}}}}{\sqrt{2}}\right],\right.$$

$$\left.\left.-\frac{2 \sqrt{b^2-4 a c}\, e}{2 c d-\left(b+\sqrt{b^2-4 a c}\right) e}\right]\right)\Big/\left(3 c e^4 \sqrt{d+e x} \sqrt{a+b x+c x^2}\right)$$

Result (type 4, 8456 leaves):

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

$$\left(2 \left(-8 c C d^3+5 B c d^2 e+7 b C d^2 e-4 b B d e^2-2 A c d e^2-6 a C d e^2+A b e^3+3 a B e^3\right)\right)\Big/$$

$$\left.\left(3 e^3 \left(c d^2-b d e+a e^2\right) (d+e x)\right)\right)-$$

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

$$\left(\left(\left(16 c^2 C d^3-8 B c^2 d^2 e-16 b c C d^2 e+7 b B c d e^2+2 A c^2 d e^2+b^2 C d e^2+14 a c C d e^2-\right.\right.\right.$$

$$\text{A b c e}^3 - 6\,\text{a B c e}^3 - \text{a b C e}^3\Big)\ (d+e x)^{3/2}\left(c+\frac{c d^2}{(d+e x)^2}-\frac{b d e}{(d+e x)^2}+\frac{a e^2}{(d+e x)^2}-\right.$$

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

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

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

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

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

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

$$\text{EllipticF}\left[\mathrm{i}\,\text{ArcSinh}\left[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right],\right.$$

$$\left.\left.\left.\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]\right)\right)\Bigg/\left(\left(c d^2-b d e+a e^2\right)\right.$$

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

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

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

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

$$\text{EllipticF}\left[\mathrm{i}\,\text{ArcSinh}\left[\frac{\sqrt{2} \sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d + e x}}\right],\right.$$

$$\left.\left.\left.\frac{2 c d - b e - \sqrt{b^2 e^2 - 4 a c e^2}}{2 c d - b e + \sqrt{b^2 e^2 - 4 a c e^2}}\right]\right)\right) \Bigg/ \left(\left(c d^2 - b d e + a e^2\right)\right.$$

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

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

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

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

$$\text{EllipticF}\left[\mathrm{i}\,\text{ArcSinh}\left[\frac{\sqrt{2} \sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d + e x}}\right],\right.$$

$$\left.\left.\left.\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]\right)\right) \Big/ \left(\left(c d^2-b d e+a e^2\right)\right.$$

$$\left.\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}} \sqrt{c+\frac{c d^2-b d e+a e^2}{(d+e x)^2}+\frac{-2 c d+b e}{d+e x}}\right)+\left(7 \mathrm{i}\right.$$

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

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

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

$$\text{EllipticF}\left[\mathrm{i} \text{ArcSinh}\left[\frac{\sqrt{2} \sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right],\right.$$

$$\left.\left.\left.\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]\right)\right) \Big/ \left(2 \sqrt{2} \left(c d^2-b d e+a e^2\right)\right.$$

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

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

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

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

$$\text{EllipticF}\left[\mathrm{i}\,\text{ArcSinh}\left[\frac{\sqrt{2}\,\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right],\right.$$

$$\left.\left.\left.\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]\right)\right)\Bigg/\left(\sqrt{2}\,\left(c d^2-b d e+a e^2\right)\right.$$

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

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

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

$$\left.\frac{\sqrt{2}\,\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right],\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]-\text{EllipticF}\left[\mathrm{i}\right.$$

$$\left.\left.\left.\text{ArcSinh}\left[\frac{\sqrt{2}\,\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right],\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]\right)\right)\Bigg/$$

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

$$\left.\sqrt{c+\frac{c d^2-b d e+a e^2}{(d+e x)^2}+\frac{-2 c d+b e}{d+e x}}\right)+\left(7\,\mathrm{i}\,a c C d e^2\right.$$

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

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

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

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

$$\left.\left.\left.\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]\right)\right) \Big/ \left(\sqrt{2} \left(c d^2-b d e+a e^2\right)\right.$$

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

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

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

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

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

$$\left.\left.\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\right]\right)\Bigg)\Bigg/\Bigg(2\,\sqrt{2}\,\left(c\,d^2-b\,d\,e+a\,e^2\right)$$

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

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

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

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

$$\text{EllipticF}\left[\mathrm{i}\,\text{ArcSinh}\left[\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\right],\right.$$

$$\left.\left.\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\right]\right)\Bigg)\Bigg/\Bigg(\sqrt{2}\,\left(c\,d^2-b\,d\,e+a\,e^2\right)$$

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

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

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

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

$$\text{EllipticF}\left[\mathbb{i}\,\text{ArcSinh}\left[\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\right],\right.$$

$$\left.\left.\left.\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\right]\right)\right)\Bigg/\left(2\,\sqrt{2}\,\left(c\,d^2-b\,d\,e+a\,e^2\right)\right.$$

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

$$\left(8\,\mathbb{i}\,\sqrt{2}\,c^2\,C\,d^2\,\sqrt{1-\frac{2\,\left(c\,d^2-b\,d\,e+a\,e^2\right)}{\left(2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}\right)\,(d+e\,x)}}\right.$$

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

$$\left.\text{EllipticF}\left[\mathbb{i}\,\text{ArcSinh}\left[\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\right],\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\right]\right)\Bigg/$$

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Problem 263: Result unnecessarily involves complex numbers and more than twice size of optimal antiderivative.

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

Optimal (type 4, 992 leaves, 7 steps) :

$$-\frac{1}{15\,e^3\,\left(c\,d^2-b\,d\,e+a\,e^2\right)^2\,(d+e\,x)^{3/2}}2\,\Big(c^2\,d^3\,\left(24\,C\,d^2-e\,(4\,B\,d+A\,e)\right)+e^2\,\left(15\,b^2\,C\,d^3+5\,a^2\,e^2\,(C\,d+B\,e)-a\,b\,e\,\left(22\,C\,d^2+3\,B\,d\,e+2\,A\,e^2\right)\right)-c\,d\,e\,\left(b\,d\,\left(41\,C\,d^2-6\,B\,d\,e+A\,e^2\right)-a\,e\,\left(37\,C\,d^2-7\,B\,d\,e+7\,A\,e^2\right)\right)+e\,\Big(5\,c^2\,d^2\,\left(6\,C\,d^2-e\,(B\,d+A\,e)\right)+e^2\,\left(15\,a^2\,C\,e^2-5\,a\,b\,e\,(8\,C\,d-B\,e)+b^2\,\left(23\,C\,d^2-3\,B\,d\,e-2\,A\,e^2\right)\right)-c\,e\,\left(5\,b\,d\,\left(11\,C\,d^2-2\,B\,d\,e-A\,e^2\right)-a\,e\,\left(53\,C\,d^2-13\,B\,d\,e+3\,A\,e^2\right)\right)\Big)\,x\Big)\,\sqrt{a+b\,x+c\,x^2}-$$

$$\frac{2\,\left(C\,d^2-e\,(B\,d-A\,e)\right)\,\left(a+b\,x+c\,x^2\right)^{3/2}}{5\,e\,\left(c\,d^2-b\,d\,e+a\,e^2\right)\,(d+e\,x)^{5/2}}+\Bigg(\sqrt{2}\,\sqrt{b^2-4\,a\,c}\,\Big(2\,c^2\,d^2\,\left(24\,C\,d^2-e\,(4\,B\,d+A\,e)\right)+e^2\,\left(30\,a^2\,C\,e^2-5\,a\,b\,e\,(14\,C\,d-B\,e)+b^2\,\left(38\,C\,d^2-3\,B\,d\,e-2\,A\,e^2\right)\right)-c\,e\,\left(b\,d\,\left(88\,C\,d^2-13\,B\,d\,e-2\,A\,e^2\right)-2\,a\,e\,\left(43\,C\,d^2-8\,B\,d\,e+3\,A\,e^2\right)\right)\Big)\,\sqrt{d+e\,x}\,\sqrt{-\frac{c\,\left(a+b\,x+c\,x^2\right)}{b^2-4\,a\,c}}\,\text{EllipticE}\Big[\text{ArcSin}\Big[\frac{\sqrt{\frac{b+\sqrt{b^2-4\,a\,c}+2\,c\,x}{\sqrt{b^2-4\,a\,c}}}}{\sqrt{2}}\Big],-\frac{2\,\sqrt{b^2-4\,a\,c}\,e}{2\,c\,d-\left(b+\sqrt{b^2-4\,a\,c}\right)\,e}\Big]\Bigg)\Bigg/$$

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

$$\Bigg(2\,\sqrt{2}\,\sqrt{b^2-4\,a\,c}\,\Big(15\,b\,C\,e^2\,(b\,d-a\,e)+2\,c^2\,d\,\left(24\,C\,d^2-e\,(4\,B\,d+A\,e)\right)+c\,e\,\left(10\,a\,e\,(5\,C\,d-B\,e)-b\,\left(64\,C\,d^2-9\,B\,d\,e-A\,e^2\right)\right)\Big)\,\sqrt{\frac{c\,(d+e\,x)}{2\,c\,d-\left(b+\sqrt{b^2-4\,a\,c}\right)\,e}}\,\sqrt{-\frac{c\,\left(a+b\,x+c\,x^2\right)}{b^2-4\,a\,c}}\,\text{EllipticF}\Big[\text{ArcSin}\Big[\frac{\sqrt{\frac{b+\sqrt{b^2-4\,a\,c}+2\,c\,x}{\sqrt{b^2-4\,a\,c}}}}{\sqrt{2}}\Big],-\frac{2\,\sqrt{b^2-4\,a\,c}\,e}{2\,c\,d-\left(b+\sqrt{b^2-4\,a\,c}\right)\,e}\Big]\Bigg)\Bigg/$$

$$\left(15\,c\,e^4\,\left(c\,d^2-b\,d\,e+a\,e^2\right)\,\sqrt{d+e\,x}\,\sqrt{a+b\,x+c\,x^2}\right)$$

Result (type 4, 12 997 leaves) :

$$\sqrt{d+e x}\ \sqrt{a+x\ (b+c x)}\ \left(-\frac{2\ (C d^2-B d e+A e^2)}{5 e^3\ (d+e x)^3}-\right.$$
$$\left(2\ (-12 c C d^3+7 B c d^2 e+11 b C d^2 e-6 b B d e^2-2 A c d e^2-10 a C d e^2+A b e^3+5 a B e^3)\right)\Big/$$
$$\left(15 e^3\ (c d^2-b d e+a e^2)\ (d+e x)^2\right)-$$
$$\left(2\ (33 c^2 C d^4-8 B c^2 d^3 e-58 b c C d^3 e+13 b B c d^2 e^2-2 A c^2 d^2 e^2+23 b^2 C d^2 e^2+\right.$$
$$56 a c C d^2 e^2-3 b^2 B d e^3+2 A b c d e^3-16 a B c d e^3-40 a b C d e^3-2 A b^2 e^4+$$
$$\left.\left.5 a b B e^4+6 a A c e^4+15 a^2 C e^4)\right)\Big/\left(15 e^3\ (c d^2-b d e+a e^2)^2\ (d+e x)\right)\right)-$$

$$\frac{1}{15 e^5\ (c d^2-b d e+a e^2)^2\ \sqrt{a+b x+c x^2}}\ 2\ \sqrt{a+x\ (b+c x)}$$

$$\left(\left((-48 c^2 C d^4+8 B c^2 d^3 e+88 b c C d^3 e-13 b B c d^2 e^2+2 A c^2 d^2 e^2-38 b^2 C d^2 e^2-86 a c C d^2 e^2+\right.\right.$$

$$3 b^2 B d e^3-2 A b c d e^3+16 a B c d e^3+70 a b C d e^3+2 A b^2 e^4-5 a b B e^4-6 a A c e^4-$$
$$\left.30 a^2 C e^4)\ (d+e x)^{3/2}\left(c+\frac{c d^2}{(d+e x)^2}-\frac{b d e}{(d+e x)^2}+\frac{a e^2}{(d+e x)^2}-\frac{2 c d}{d+e x}+\frac{b e}{d+e x}\right)\right)\Big/$$

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

$$(c d^2-b d e+a e^2)\ (d+e x)\ \sqrt{c+\frac{c d^2}{(d+e x)^2}-\frac{b d e}{(d+e x)^2}+\frac{a e^2}{(d+e x)^2}-\frac{2 c d}{d+e x}+\frac{b e}{d+e x}}$$

$$\left(\left(12\, i\, \sqrt{2}\ c^2 C d^4\ \left(2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}\right)\right.\right.$$

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

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

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

$$\left.\left.\left.\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]\right)\right)\Big/\left(\left(c d^2-b d e+a e^2\right)\right.$$

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

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

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

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

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

$$\left.\left.\left.\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]\right)\right)\Big/\left(\left(c d^2-b d e+a e^2\right)\right.$$

$$\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}} \sqrt{c+\frac{c d^2-b d e+a e^2}{(d+e x)^2}+\frac{-2 c d+b e}{d+e x}}\Bigg) - \Bigg(22 \mathrm{i} \sqrt{2}$$

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

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

$$\Bigg(\text{EllipticE}\Big[\mathrm{i} \,\text{ArcSinh}\Big[\frac{\sqrt{2} \sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\Big], \frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\Big] -$$

$$\text{EllipticF}\Big[\mathrm{i} \,\text{ArcSinh}\Big[\frac{\sqrt{2} \sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\Big],$$

$$\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\Big]\Bigg)\Bigg) \Big/ \Bigg(\left(c d^2-b d e+a e^2\right)$$

$$\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}} \sqrt{c+\frac{c d^2-b d e+a e^2}{(d+e x)^2}+\frac{-2 c d+b e}{d+e x}}\Bigg) + \Bigg(13 \mathrm{i} b$$

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

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

$$\Bigg(\text{EllipticE}\Big[\mathrm{i} \,\text{ArcSinh}\Big[\frac{\sqrt{2} \sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\Big], \frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\Big] -$$

$$\text{EllipticF}\Big[\mathbb{i}\,\text{ArcSinh}\Big[\frac{\sqrt{2}\,\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\Big],$$

$$\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\Big]\Bigg)\Bigg)\Bigg/\Bigg(2\sqrt{2}\,\left(c d^2-b d e+a e^2\right)$$

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

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

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

$$\frac{\sqrt{2}\,\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\Big],\,\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\Big]-\text{EllipticF}\Big[\mathbb{i}$$

$$\text{ArcSinh}\Big[\frac{\sqrt{2}\,\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\Big],\,\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\Big]\Bigg)\Bigg)\Bigg/$$

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

$$\sqrt{c+\frac{c d^2-b d e+a e^2}{(d+e x)^2}+\frac{-2 c d+b e}{d+e x}}\Bigg)+\Bigg(19\,\mathbb{i}\,b^2\,C\,d^2 e^2$$

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

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

$$\left(\sqrt{2}\left(c d^2-b d e+a e^2\right)\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}\sqrt{c+\frac{c d^2-b d e+a e^2}{(d+e x)^2}+\frac{-2 c d+b e}{d+e x}}\right)+\left(43\,i\,a\,c\,C\,d^2 e^2\right.$$

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

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

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

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

$$\left.\left.\left.\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]\right)\right)\Bigg/\left(\sqrt{2}\left(c d^2-b d e+a e^2\right)\right.$$

$$\sqrt{-\frac{c d^2 - b d e + a e^2}{2 c d - b e - \sqrt{b^2 e^2 - 4 a c e^2}}} \sqrt{c + \frac{c d^2 - b d e + a e^2}{(d + e x)^2} + \frac{-2 c d + b e}{d + e x}} -$$

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

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

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

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

$$\left.\left.\left.\frac{2 c d - b e - \sqrt{b^2 e^2 - 4 a c e^2}}{2 c d - b e + \sqrt{b^2 e^2 - 4 a c e^2}}\right]\right)\right) \Big/ \left(2 \sqrt{2} (c d^2 - b d e + a e^2)\right.$$

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

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

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

$$\left.\frac{\sqrt{2} \sqrt{-\frac{c d^2 - b d e + a e^2}{2 c d - b e - \sqrt{b^2 e^2 - 4 a c e^2}}}}{\sqrt{d + e x}}\right], \frac{2 c d - b e - \sqrt{b^2 e^2 - 4 a c e^2}}{2 c d - b e + \sqrt{b^2 e^2 - 4 a c e^2}}\right] - \text{EllipticF}\left[i\right.$$

$$\text{ArcSinh}\left[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right],\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]\Bigg)\Bigg)\Big/$$

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

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

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

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

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

$$\text{EllipticF}\left[\mathrm{i}\,\text{ArcSinh}\left[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right],\right.$$

$$\left.\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]\Bigg)\Bigg)\Big/\Bigg(\left(c d^2-b d e+a e^2\right)$$

$$\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}\sqrt{c+\frac{c d^2-b d e+a e^2}{(d+e x)^2}+\frac{-2 c d+b e}{d+e x}}\Bigg)-\Bigg(35\,\mathrm{i}$$

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

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

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

$$\text{EllipticF}\left[\mathbb{i}\,\text{ArcSinh}\left[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right],\right.$$

$$\left.\left.\left.\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]\right)\right)\Big/\left(\sqrt{2}\left(c d^2-b d e+a e^2\right)\right.$$

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

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

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

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

$$\text{EllipticF}\left[\mathbb{i}\,\text{ArcSinh}\left[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right],\right.$$

$$\left.\left.\left.\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]\right)\right)\Big/\left(\sqrt{2}\left(c d^2-b d e+a e^2\right)\right.$$

$$\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}\;\sqrt{c+\frac{c\,d^2-b\,d\,e+a\,e^2}{(d+e\,x)^2}+\frac{-2\,c\,d+b\,e}{d+e\,x}}\Bigg)+$$

$$\Bigg(5\,i\,a\,b\,B\,e^4\left(2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}\right)\sqrt{1-\frac{2\left(c\,d^2-b\,d\,e+a\,e^2\right)}{\left(2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}\right)(d+e\,x)}}$$

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

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

$$\text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\Big],$$

$$\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\Big]\Bigg)\Bigg)\Bigg/\Bigg(2\sqrt{2}\left(c\,d^2-b\,d\,e+a\,e^2\right)$$

$$\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}\;\sqrt{c+\frac{c\,d^2-b\,d\,e+a\,e^2}{(d+e\,x)^2}+\frac{-2\,c\,d+b\,e}{d+e\,x}}\Bigg)+$$

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

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

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

$$\text{EllipticF}\left[\mathbb{i}\,\text{ArcSinh}\left[\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\right],\right.$$

$$\left.\left.\left.\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\right]\right)\right)\Big/\left(\sqrt{2}\,\left(c\,d^2-b\,d\,e+a\,e^2\right)\right.$$

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

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

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

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

$$\text{EllipticF}\left[\mathbb{i}\,\text{ArcSinh}\left[\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\right],\right.$$

$$\left.\left.\left.\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\right]\right)\right)\Big/\left(\sqrt{2}\,\left(c\,d^2-b\,d\,e+a\,e^2\right)\right.$$

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

$$\left(24\,\mathbb{i}\,\sqrt{2}\,c^2\,C\,d^3\,\sqrt{1-\frac{2\,\left(c\,d^2-b\,d\,e+a\,e^2\right)}{\left(2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}\right)\,(d+e\,x)}}\right.$$

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

$$\left.\text{EllipticF}\left[\mathrm{i}\,\text{ArcSinh}\left[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right],\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]\right)\Bigg/$$

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

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

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

$$\left.\text{EllipticF}\left[\mathrm{i}\,\text{ArcSinh}\left[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right],\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]\right)\Bigg/$$

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

$$\left(32\,\mathrm{i}\sqrt{2}\,b c C d^2 e\sqrt{1-\frac{2\left(c d^2-b d e+a e^2\right)}{\left(2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}\right)(d+e x)}}\right.$$

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

$$\left.\text{EllipticF}\left[\mathrm{i}\,\text{ArcSinh}\left[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right],\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]\right)\Bigg/$$

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

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

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

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

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

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

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

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

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

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

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

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

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

$$\left(25\,\mathrm{i}\sqrt{2}\,a\,c\,C\,d\,e^2\sqrt{1-\frac{2\left(c d^2-b d e+a e^2\right)}{\left(2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}\right)(d+e x)}}\right.$$

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

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

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

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

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

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

$$\Bigg(\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}\;\sqrt{c+\frac{c\,d^2-b\,d\,e+a\,e^2}{(d+e\,x)^2}+\frac{-2\,c\,d+b\,e}{d+e\,x}}\Bigg)-$$

$$\Bigg(5\,i\,\sqrt{2}\,a\,B\,c\,e^3\,\sqrt{1-\frac{2\,(c\,d^2-b\,d\,e+a\,e^2)}{\left(2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}\right)(d+e\,x)}}$$

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

$$\text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\Big],\,\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\Big]\Bigg)\Big/$$

$$\Bigg(\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}\;\sqrt{c+\frac{c\,d^2-b\,d\,e+a\,e^2}{(d+e\,x)^2}+\frac{-2\,c\,d+b\,e}{d+e\,x}}\Bigg)-$$

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

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

$$\text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\Big],\,\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\Big]\Bigg)\Big/$$

$$\Bigg(\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}\;\sqrt{c+\frac{c\,d^2-b\,d\,e+a\,e^2}{(d+e\,x)^2}+\frac{-2\,c\,d+b\,e}{d+e\,x}}\Bigg)\Bigg)\Bigg)$$

Problem 264: Result unnecessarily involves complex numbers and more than twice size of optimal antiderivative.

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

Optimal (type 4, 1363 leaves, 8 steps):

$$\frac{1}{105\,e^3\,\left(c\,d^2-b\,d\,e+a\,e^2\right)^3\,\sqrt{d+e\,x}}2\,\Big(2\,c^3\,d^3\,\left(24\,C\,d^2+e\,\left(4\,B\,d+3\,A\,e\right)\right)-b\,e^3\,\left(35\,a^2\,C\,e^2-14\,a\,b\,e\,\left(3\,C\,d+B\,e\right)+b^2\,\left(15\,C\,d^2+6\,B\,d\,e+8\,A\,e^2\right)\right)+c^2\,d\,e\,\left(2\,a\,e\,\left(69\,C\,d^2+e\,\left(15\,B\,d-29\,A\,e\right)\right)-b\,d\,\left(128\,C\,d^2+e\,\left(19\,B\,d+9\,A\,e\right)\right)\right)+c\,e^2\,\left(14\,a^2\,e^2\,\left(11\,C\,d-3\,B\,e\right)-a\,b\,e\,\left(237\,C\,d^2+e\,\left(B\,d-29\,A\,e\right)\right)+b^2\,d\,\left(103\,C\,d^2+e\,\left(9\,B\,d+19\,A\,e\right)\right)\right)\Big)\,\sqrt{a+b\,x+c\,x^2}-\frac{1}{105\,e^3\,\left(c\,d^2-b\,d\,e+a\,e^2\right)^2\,(d+e\,x)^{5/2}}2\,\Big(c^2\,d^3\,\left(24\,C\,d^2+e\,\left(4\,B\,d+3\,A\,e\right)\right)-e^2\,\left(7\,a^2\,e^2\,\left(C\,d-3\,B\,e\right)-b^2\,d\,\left(15\,C\,d^2+6\,B\,d\,e+8\,A\,e^2\right)+a\,b\,e\,\left(12\,C\,d^2+23\,B\,d\,e+12\,A\,e^2\right)\right)-c\,d\,e\,\left(b\,d\,\left(43\,C\,d^2+6\,B\,d\,e+15\,A\,e^2\right)-a\,e\,\left(33\,C\,d^2+9\,B\,d\,e+19\,A\,e^2\right)\right)+e\,\Big(7\,c^2\,d^2\,\left(6\,C\,d^2+e\,\left(B\,d-3\,A\,e\right)\right)+e^2\,\left(35\,a^2\,C\,e^2-7\,a\,b\,e\,\left(12\,C\,d-B\,e\right)+b^2\,\left(45\,C\,d^2-3\,B\,d\,e-4\,A\,e^2\right)\right)+c\,e\,\left(a\,e\,\left(93\,C\,d^2-9\,B\,d\,e-5\,A\,e^2\right)-b\,\left(91\,C\,d^3-21\,A\,d\,e^2\right)\right)\Big)\,x\Big)\,\sqrt{a+b\,x+c\,x^2}-\frac{2\,\left(C\,d^2-e\,\left(B\,d-A\,e\right)\right)\,\left(a+b\,x+c\,x^2\right)^{3/2}}{7\,e\,\left(c\,d^2-b\,d\,e+a\,e^2\right)\,(d+e\,x)^{7/2}}-$$

$$\frac{1}{105\,e^4\,\left(c\,d^2-b\,d\,e+a\,e^2\right)^3\,\sqrt{\frac{c\,(d+e\,x)}{2\,c\,d-\left(b+\sqrt{b^2-4\,a\,c}\right)\,e}}\,\sqrt{a+b\,x+c\,x^2}}\sqrt{2}\,\sqrt{b^2-4\,a\,c}\,\Big(2\,c^3\,d^3\,\left(24\,C\,d^2+e\,\left(4\,B\,d+3\,A\,e\right)\right)-b\,e^3\,\left(35\,a^2\,C\,e^2-14\,a\,b\,e\,\left(3\,C\,d+B\,e\right)+b^2\,\left(15\,C\,d^2+6\,B\,d\,e+8\,A\,e^2\right)\right)+c^2\,d\,e\,\left(2\,a\,e\,\left(69\,C\,d^2+e\,\left(15\,B\,d-29\,A\,e\right)\right)-b\,d\,\left(128\,C\,d^2+e\,\left(19\,B\,d+9\,A\,e\right)\right)\right)+c\,e^2\,\left(14\,a^2\,e^2\,\left(11\,C\,d-3\,B\,e\right)-a\,b\,e\,\left(237\,C\,d^2+e\,\left(B\,d-29\,A\,e\right)\right)+b^2\,d\,\left(103\,C\,d^2+e\,\left(9\,B\,d+19\,A\,e\right)\right)\right)\Big)\,\sqrt{d+e\,x}\,\sqrt{-\frac{c\,\left(a+b\,x+c\,x^2\right)}{b^2-4\,a\,c}}\,\text{EllipticE}\left[\text{ArcSin}\left[\frac{\sqrt{\frac{b+\sqrt{b^2-4\,a\,c}+2\,c\,x}{\sqrt{b^2-4\,a\,c}}}}{\sqrt{2}}\right],-\frac{2\,\sqrt{b^2-4\,a\,c}\,e}{2\,c\,d-\left(b+\sqrt{b^2-4\,a\,c}\right)\,e}\right]+$$

$$\frac{1}{105\,e^4\,\left(c\,d^2-b\,d\,e+a\,e^2\right)^2\,\sqrt{d+e\,x}\,\sqrt{a+b\,x+c\,x^2}}2\,\sqrt{2}\,\sqrt{b^2-4\,a\,c}\,\Big(2\,c^2\,d^2\,\left(24\,C\,d^2+e\,\left(4\,B\,d+3\,A\,e\right)\right)+c\,e\,\left(2\,a\,e\,\left(51\,C\,d^2+e\,\left(12\,B\,d-5\,A\,e\right)\right)-b\,d\,\left(104\,C\,d^2+3\,e\,\left(5\,B\,d+2\,A\,e\right)\right)\right)+e^2\,\left(70\,a^2\,C\,e^2-7\,a\,b\,e\,\left(18\,C\,d+B\,e\right)+b^2\,\left(60\,C\,d^2+e\,\left(3\,B\,d+4\,A\,e\right)\right)\right)\Big)$$

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

$$\text{EllipticF}\left[\text{ArcSin}\left[\frac{\sqrt{\frac{b+\sqrt{b^2-4\,a\,c}+2\,c\,x}{\sqrt{b^2-4\,a\,c}}}}{\sqrt{2}}\right],\,-\frac{2\,\sqrt{b^2-4\,a\,c}\,\,e}{2\,c\,d-\left(b+\sqrt{b^2-4\,a\,c}\right)\,e}\right]$$

Result (type 4, 19 853 leaves) :

$$\sqrt{d+e\,x}\,\sqrt{a+x\,(b+c\,x)}\,\left(-\frac{2\,\left(C\,d^2-B\,d\,e+A\,e^2\right)}{7\,e^3\,(d+e\,x)^4}-\right.$$
$$\left(2\,\left(-16\,c\,C\,d^3+9\,B\,c\,d^2\,e+15\,b\,C\,d^2\,e-8\,b\,B\,d\,e^2-2\,A\,c\,d\,e^2-14\,a\,C\,d\,e^2+A\,b\,e^3+7\,a\,B\,e^3\right)\right)\Big/$$
$$\left(35\,e^3\,\left(c\,d^2-b\,d\,e+a\,e^2\right)\,(d+e\,x)^3\right)-$$
$$\left(2\,\left(57\,c^2\,C\,d^4-8\,B\,c^2\,d^3\,e-106\,b\,c\,C\,d^3\,e+15\,b\,B\,c\,d^2\,e^2-6\,A\,c^2\,d^2\,e^2+45\,b^2\,C\,d^2\,e^2+\right.\right.$$
$$108\,a\,c\,C\,d^2\,e^2-3\,b^2\,B\,d\,e^3+6\,A\,b\,c\,d\,e^3-24\,a\,B\,c\,d\,e^3-84\,a\,b\,C\,d\,e^3-$$
$$\left.\left.4\,A\,b^2\,e^4+7\,a\,b\,B\,e^4+10\,a\,A\,c\,e^4+35\,a^2\,C\,e^4\right)\right)\Big/$$
$$\left(105\,e^3\,\left(c\,d^2-b\,d\,e+a\,e^2\right)^2\,(d+e\,x)^2\right)-\frac{1}{105\,e^3\,\left(c\,d^2-b\,d\,e+a\,e^2\right)^3\,(d+e\,x)}$$
$$2\,\left(-48\,c^3\,C\,d^5-8\,B\,c^3\,d^4\,e+128\,b\,c^2\,C\,d^4\,e+19\,b\,B\,c^2\,d^3\,e^2-6\,A\,c^3\,d^3\,e^2-103\,b^2\,c\,C\,d^3\,e^2-\right.$$
$$138\,a\,c^2\,C\,d^3\,e^2-9\,b^2\,B\,c\,d^2\,e^3+9\,A\,b\,c^2\,d^2\,e^3-30\,a\,B\,c^2\,d^2\,e^3+15\,b^3\,C\,d^2\,e^3+$$
$$237\,a\,b\,c\,C\,d^2\,e^3+6\,b^3\,B\,d\,e^4-19\,A\,b^2\,c\,d\,e^4+a\,b\,B\,c\,d\,e^4+58\,a\,A\,c^2\,d\,e^4-42\,a\,b^2\,C\,d\,e^4-$$
$$\left.\left.154\,a^2\,c\,C\,d\,e^4+8\,A\,b^3\,e^5-14\,a\,b^2\,B\,e^5-29\,a\,A\,b\,c\,e^5+42\,a^2\,B\,c\,e^5+35\,a^2\,b\,C\,e^5\right)\right)-$$

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

$$\left(\frac{1}{c\,\sqrt{\frac{(d+e\,x)^2\,\left(c\,\left(-1+\frac{d}{d+e\,x}\right)^2+\frac{e\,\left(b-\frac{b\,d}{d+e\,x}+\frac{a\,e}{d+e\,x}\right)}{d+e\,x}\right)}{e^2}}}\right.$$
$$\left(48\,c^3\,C\,d^5+8\,B\,c^3\,d^4\,e-128\,b\,c^2\,C\,d^4\,e-19\,b\,B\,c^2\,d^3\,e^2+6\,A\,c^3\,d^3\,e^2+103\,b^2\,c\,C\,d^3\,e^2+\right.$$
$$138\,a\,c^2\,C\,d^3\,e^2+9\,b^2\,B\,c\,d^2\,e^3-9\,A\,b\,c^2\,d^2\,e^3+30\,a\,B\,c^2\,d^2\,e^3-15\,b^3\,C\,d^2\,e^3-$$
$$237\,a\,b\,c\,C\,d^2\,e^3-6\,b^3\,B\,d\,e^4+19\,A\,b^2\,c\,d\,e^4-a\,b\,B\,c\,d\,e^4-58\,a\,A\,c^2\,d\,e^4+42\,a\,b^2\,C\,d\,e^4+$$
$$\left.154\,a^2\,c\,C\,d\,e^4-8\,A\,b^3\,e^5+14\,a\,b^2\,B\,e^5+29\,a\,A\,b\,c\,e^5-42\,a^2\,B\,c\,e^5-35\,a^2\,b\,C\,e^5\right)$$
$$(d+e\,x)^{3/2}\,\left(c+\frac{c\,d^2}{(d+e\,x)^2}-\frac{b\,d\,e}{(d+e\,x)^2}+\frac{a\,e^2}{(d+e\,x)^2}-\frac{2\,c\,d}{d+e\,x}+\frac{b\,e}{d+e\,x}\right)-$$

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

$$\sqrt{c+\frac{c\,d^2}{(d+e\,x)^2}-\frac{b\,d\,e}{(d+e\,x)^2}+\frac{a\,e^2}{(d+e\,x)^2}-\frac{2\,c\,d}{d+e\,x}+\frac{b\,e}{d+e\,x}}\,\Bigg(\Bigg(12\,\mathrm{i}\,\sqrt{2}\,c^3\,C\,d^5$$

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

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

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

$$\text{EllipticF}\left[\mathrm{i}\,\text{ArcSinh}\left[\frac{\sqrt{2}\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\right],\right.$$

$$\left.\left.\left.\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\right]\right)\right)\Bigg/\left(\left(c\,d^2-b\,d\,e+a\,e^2\right)\right.$$

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

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

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

$$\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\Big],\ \frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\Big]-\text{EllipticF}\Big[\mathrm{i}$$

$$\text{ArcSinh}\Big[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\Big],\ \frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\Big]\Bigg)\Bigg)\Bigg/$$

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

$$\sqrt{c+\frac{c d^2-b d e+a e^2}{(d+e x)^2}+\frac{-2 c d+b e}{d+e x}}\Bigg)-\Bigg(32\,\mathrm{i}\sqrt{2}\ b c^2 C d^4 e$$

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

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

$$\Bigg(\text{EllipticE}\Big[\mathrm{i}\,\text{ArcSinh}\Big[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\Big],\ \frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\Big]-$$

$$\text{EllipticF}\Big[\mathrm{i}\,\text{ArcSinh}\Big[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\Big],$$

$$\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\Big]\Bigg)\Bigg)\Bigg/\Bigg(\left(c d^2-b d e+a e^2\right)$$

$$\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}\ \sqrt{c+\frac{c d^2-b d e+a e^2}{(d+e x)^2}+\frac{-2 c d+b e}{d+e x}}\Bigg)-\Bigg(19\,\mathrm{i}\,b$$

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

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

$$\left.\left.\frac{\sqrt{2} \sqrt{-\frac{c d^2 - b d e + a e^2}{2 c d - b e - \sqrt{b^2 e^2 - 4 a c e^2}}}}{\sqrt{d + e x}}\right], \frac{2 c d - b e - \sqrt{b^2 e^2 - 4 a c e^2}}{2 c d - b e + \sqrt{b^2 e^2 - 4 a c e^2}}\right] - \text{EllipticF}\left[\mathbb{i}\right.$$

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

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

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

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

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

$$\left.\left.\frac{\sqrt{2} \sqrt{-\frac{c d^2 - b d e + a e^2}{2 c d - b e - \sqrt{b^2 e^2 - 4 a c e^2}}}}{\sqrt{d + e x}}\right], \frac{2 c d - b e - \sqrt{b^2 e^2 - 4 a c e^2}}{2 c d - b e + \sqrt{b^2 e^2 - 4 a c e^2}}\right] - \text{EllipticF}\left[\mathbb{i}\right.$$

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

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

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

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

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

$$\left.\left.\frac{\sqrt{2}\ \sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\right],\ \frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\right]-\text{EllipticF}\left[\mathbb{i}\right.$$

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

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

$$\left.\sqrt{c+\frac{c\,d^2-b\,d\,e+a\,e^2}{\left(d+e\,x\right)^2}+\frac{-2\,c\,d+b\,e}{d+e\,x}}\right)+\left(69\,\mathbb{i}\,a\,c^2\,C\,d^3\,e^2\right.$$

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

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

$$\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\Big],\ \frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\Big]-\text{EllipticF}\Big[\mathbb{i}$$

$$\text{ArcSinh}\Big[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\Big],\ \frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\Big]\Bigg)\Bigg)\Bigg/$$

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

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

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

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

$$\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\Big],\ \frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\Big]-\text{EllipticF}\Big[\mathbb{i}$$

$$\text{ArcSinh}\Big[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\Big],\ \frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\Big]\Bigg)\Bigg)\Bigg/$$

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

$$\sqrt{c+\frac{c d^2-b d e+a e^2}{(d+e x)^2}+\frac{-2 c d+b e}{d+e x}}\Bigg)-\Bigg(9\,\mathbb{i}\,A b c^2 d^2 e^3$$

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

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

$$\left.\left.\frac{\sqrt{2} \sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right], \frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]-\text{EllipticF}\left[i\right.$$

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

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

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

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

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

$$\left.\left.\frac{\sqrt{2} \sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right], \frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]-\text{EllipticF}\left[i\right.$$

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

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

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

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

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

$$\left.\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right],\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]-\text{EllipticF}\left[i\right.$$

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

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

$$\left.\sqrt{c+\frac{c d^2-b d e+a e^2}{(d+e x)^2}+\frac{-2 c d+b e}{d+e x}}\right)-\left(237\, i\, a b c C d^2 e^3\right.$$

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

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

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

$$\text{EllipticF}\left[\mathrm{i}\,\text{ArcSinh}\left[\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\right],\right.$$

$$\left.\left.\left.\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\right]\right)\right)\Big/\left(2\,\sqrt{2}\,\left(c\,d^2-b\,d\,e+a\,e^2\right)\right.$$

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

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

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

$$\left.\left.\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\right],\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\right]-\text{EllipticF}\left[\mathrm{i}\right.$$

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

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

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

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

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

$$\left.\left.\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\right],\,\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\right]-\text{EllipticF}\left[\mathrm{i}\right.$$

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

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

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

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

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

$$\left.\left.\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\right],\,\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\right]-\text{EllipticF}\left[\mathrm{i}\right.$$

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

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

$$\left.\sqrt{c+\frac{c\,d^2-b\,d\,e+a\,e^2}{\left(d+e\,x\right)^2}+\frac{-2\,c\,d+b\,e}{d+e\,x}}\right)-\left(29\,\mathbb{i}\,a\,A\,c^2\,d\,e^4\right.$$

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

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

$$\left.\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\right],\,\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\right]-\text{EllipticF}\left[\mathbb{i}\right.$$

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

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

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

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

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

$$\frac{\sqrt{2}\,\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\Big],\ \frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\Big]-\text{EllipticF}\Big[\text{i}$$

$$\text{ArcSinh}\Big[\frac{\sqrt{2}\,\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\Big],\ \frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\Big]\Bigg)\Bigg)\Big/$$

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

$$\sqrt{c+\frac{c d^2-b d e+a e^2}{(d+e x)^2}+\frac{-2 c d+b e}{d+e x}}\Bigg)+\Bigg(77\,\text{i}\,a^2 c\,C\,d\,e^4$$

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

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

$$\frac{\sqrt{2}\,\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\Big],\ \frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\Big]-\text{EllipticF}\Big[\text{i}$$

$$\text{ArcSinh}\Big[\frac{\sqrt{2}\,\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\Big],\ \frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\Big]\Bigg)\Bigg)\Big/$$

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

$$\sqrt{c+\frac{c d^2-b d e+a e^2}{(d+e x)^2}+\frac{-2 c d+b e}{d+e x}}\Bigg)-\Bigg(2\,\text{i}\,\sqrt{2}\,A\,b^3 e^5$$

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

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

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

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

$$\left.\left.\left.\frac{2 c d - b e - \sqrt{b^2 e^2 - 4 a c e^2}}{2 c d - b e + \sqrt{b^2 e^2 - 4 a c e^2}}\right]\right)\right) \Big/ \left(\left(c d^2 - b d e + a e^2\right)\right.$$

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

$$\left(7 \, \text{i} \, a \, b^2 \, B \, e^5 \left(2 c d - b e + \sqrt{b^2 e^2 - 4 a c e^2}\right) \sqrt{1 - \frac{2 \left(c d^2 - b d e + a e^2\right)}{\left(2 c d - b e - \sqrt{b^2 e^2 - 4 a c e^2}\right) (d + e x)}}\right.$$

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

$$\left.\frac{\sqrt{2} \sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d + e x}}\right], \frac{2 c d - b e - \sqrt{b^2 e^2 - 4 a c e^2}}{2 c d - b e + \sqrt{b^2 e^2 - 4 a c e^2}}\right] - \text{EllipticF}\left[\text{i}\right.$$

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

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

$$\left.\sqrt{c+\frac{c\,d^2-b\,d\,e+a\,e^2}{(d+e\,x)^2}+\frac{-2\,c\,d+b\,e}{d+e\,x}}\right)+\left(29\,i\,a\,A\,b\,c\,e^5\right.$$

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

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

$$\left.\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\right],\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\Big]-\text{EllipticF}\Big[i$$

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

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

$$\left.\sqrt{c+\frac{c\,d^2-b\,d\,e+a\,e^2}{(d+e\,x)^2}+\frac{-2\,c\,d+b\,e}{d+e\,x}}\right)-\left(21\,i\,a^2\,B\,c\,e^5\right.$$

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

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

$$\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\Big],\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\Big]-\text{EllipticF}\Big[\mathrm{i}$$

$$\text{ArcSinh}\Big[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\Big],\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\Big]\Bigg)\Bigg)\Bigg/$$

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

$$\sqrt{c+\frac{c d^2-b d e+a e^2}{(d+e x)^2}+\frac{-2 c d+b e}{d+e x}}\Bigg)-\Bigg(35\,\mathrm{i}\,a^2 b C e^5$$

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

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

$$\Bigg(\text{EllipticE}\Big[\mathrm{i}\,\text{ArcSinh}\Big[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\Big],\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\Big]-$$

$$\text{EllipticF}\Big[\mathrm{i}\,\text{ArcSinh}\Big[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\Big],$$

$$\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\Big]\Bigg)\Bigg)\Bigg/\Bigg(2\sqrt{2}\left(c d^2-b d e+a e^2\right)$$

$$\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}\sqrt{c+\frac{c d^2-b d e+a e^2}{(d+e x)^2}+\frac{-2 c d+b e}{d+e x}}\Bigg)+$$

$$\left(24\,\mathrm{i}\,\sqrt{2}\;c^3\,C\,d^4\,\sqrt{1-\frac{2\left(c\,d^2-b\,d\,e+a\,e^2\right)}{\left(2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}\right)\,(d+e\,x)}}\right.$$

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

$$\left.\text{EllipticF}\left[\mathrm{i}\,\text{ArcSinh}\left[\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\right],\,\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\right]\right)\Bigg/$$

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

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

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

$$\left.\text{EllipticF}\left[\mathrm{i}\,\text{ArcSinh}\left[\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\right],\,\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\right]\right)\Bigg/$$

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

$$\left(52\,\mathrm{i}\,\sqrt{2}\;b\,c^2\,C\,d^3\,e\,\sqrt{1-\frac{2\left(c\,d^2-b\,d\,e+a\,e^2\right)}{\left(2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}\right)\,(d+e\,x)}}\right.$$

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

$$\text{EllipticF}\left[\dot{\imath}\,\text{ArcSinh}\left[\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\right],\,\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\right]\right)\Bigg/$$

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

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

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

$$\text{EllipticF}\left[\dot{\imath}\,\text{ArcSinh}\left[\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\right],\,\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\right]\right)\Bigg/$$

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

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

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

$$\text{EllipticF}\left[\dot{\imath}\,\text{ArcSinh}\left[\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\right],\,\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\right]\right)\Bigg/$$

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

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

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

$$\left.\text{EllipticF}\left[\mathrm{i}\,\text{ArcSinh}\left[\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\right],\,\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\right]\right)\Bigg/$$

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

$$\left(51\,\mathrm{i}\,\sqrt{2}\,a\,c^2\,C\,d^2\,e^2\,\sqrt{1-\frac{2\,\left(c\,d^2-b\,d\,e+a\,e^2\right)}{\left(2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}\right)\,\left(d+e\,x\right)}}\right.$$

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

$$\left.\text{EllipticF}\left[\mathrm{i}\,\text{ArcSinh}\left[\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\right],\,\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\right]\right)\Bigg/$$

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

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

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

$$\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right],\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]\Bigg/$$

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

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

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

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

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

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

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

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

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

$$\left(63\,i\,\sqrt{2}\,a\,b\,c\,C\,d\,e^3\,\sqrt{1-\frac{2\left(c\,d^2-b\,d\,e+a\,e^2\right)}{\left(2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}\right)\,(d+e\,x)}}\right.$$

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

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

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

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

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

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

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

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

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

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

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

$$\Bigg(5\,\mathbb{i}\,\sqrt{2}\,a\,A\,c^2\,e^4\,\sqrt{1-\frac{2\,\left(c\,d^2-b\,d\,e+a\,e^2\right)}{\left(2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}\right)\,(d+e\,x)}}$$

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

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

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

$$\Bigg(35\,\mathbb{i}\,\sqrt{2}\,a^2\,c\,C\,e^4\,\sqrt{1-\frac{2\,\left(c\,d^2-b\,d\,e+a\,e^2\right)}{\left(2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}\right)\,(d+e\,x)}}$$

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

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

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

Problem 265: Result unnecessarily involves complex numbers and more than twice size of optimal antiderivative.

$$\int\frac{\sqrt{a+b\,x+c\,x^2}\,\left(A+B\,x+C\,x^2\right)}{(d+e\,x)^{11/2}}\,dx$$

Optimal (type 4, 1904 leaves, 9 steps):

$$\frac{1}{315\,e^3\,\left(c\,d^2-b\,d\,e+a\,e^2\right)^3\,(d+e\,x)^{3/2}}\,2\,\Big(2\,c^3\,d^3\,\left(8\,C\,d^2+e\,(4\,B\,d+5\,A\,e)\right)+3\,c^2\,d\,e\,\left(2\,a\,e\,\left(9\,C\,d^2+7\,B\,d\,e-9\,A\,e^2\right)-b\,d\,\left(16\,C\,d^2+7\,B\,d\,e+5\,A\,e^2\right)\right)+3\,c\,e^2\,\left(2\,a^2\,e^2\,(17\,C\,d-5\,B\,e)-a\,b\,e\,\left(41\,C\,d^2+5\,B\,d\,e-9\,A\,e^2\right)+b^2\,d\,\left(15\,C\,d^2+3\,B\,d\,e+7\,A\,e^2\right)\right)-b\,e^3\,\left(21\,a^2\,C\,e^2-6\,a\,b\,e\,(3\,C\,d+2\,B\,e)+b^2\,\left(5\,C\,d^2+4\,B\,d\,e+8\,A\,e^2\right)\right)\Big)\sqrt{a+b\,x+c\,x^2}+$$

$$\frac{1}{315\,e^3\,\left(c\,d^2-b\,d\,e+a\,e^2\right)^4\,\sqrt{d+e\,x}}\,2\,\Big(2\,c^4\,d^4\,\left(8\,C\,d^2+e\,(4\,B\,d+5\,A\,e)\right)+2\,b^2\,e^4\,\left(21\,a^2\,C\,e^2-6\,a\,b\,e\,(3\,C\,d+2\,B\,e)+b^2\,\left(5\,C\,d^2+4\,B\,d\,e+8\,A\,e^2\right)\right)-6\,c^2\,e^2\,\Big(a\,b\,d\,e\,\left(30\,C\,d^2-5\,B\,d\,e-34\,A\,e^2\right)-a^2\,e^2\,\left(30\,C\,d^2-36\,B\,d\,e+7\,A\,e^2\right)-b^2\,d^2\,\left(11\,C\,d^2+3\,B\,d\,e+11\,A\,e^2\right)\Big)-c\,e^3\,\Big(126\,a^3\,C\,e^3-3\,a^2\,b\,e^2\,(12\,C\,d+29\,B\,e)-6\,a\,b^2\,e\,\left(5\,C\,d^2+7\,B\,d\,e-12\,A\,e^2\right)+b^3\,d\,\left(20\,C\,d^2+25\,B\,d\,e+56\,A\,e^2\right)\Big)+c^3\,d^2\,e\,\left(6\,a\,e\,\left(11\,C\,d^2+8\,B\,d\,e-34\,A\,e^2\right)-b\,d\,\left(56\,C\,d^2+5\,e\,(5\,B\,d+4\,A\,e)\right)\right)\Big)\sqrt{a+b\,x+c\,x^2}-$$

$$\frac{1}{105\,e^3\,\left(c\,d^2-b\,d\,e+a\,e^2\right)^2\,(d+e\,x)^{7/2}}\,2\,\Big(c^2\,d^3\,\left(8\,C\,d^2+e\,(4\,B\,d+5\,A\,e)\right)-e^2\,\left(3\,a^2\,e^2\,(3\,C\,d-5\,B\,e)-a\,b\,e\,\left(2\,C\,d^2-17\,B\,d\,e-10\,A\,e^2\right)-b^2\,d\,\left(5\,C\,d^2+4\,B\,d\,e+8\,A\,e^2\right)\right)-c\,d\,e\,\left(3\,b\,d\,\left(5\,C\,d^2+2\,B\,d\,e+5\,A\,e^2\right)-a\,e\,\left(7\,C\,d^2+11\,B\,d\,e+13\,A\,e^2\right)\right)+e\,\Big(3\,c^2\,d^2\,\left(6\,C\,d^2+e\,(3\,B\,d-5\,A\,e)\right)+c\,e\,\left(a\,e\,\left(47\,C\,d^2+B\,d\,e-7\,A\,e^2\right)-3\,b\,d\,\left(15\,C\,d^2+2\,B\,d\,e-5\,A\,e^2\right)\right)+e^2\,\left(21\,a^2\,C\,e^2-3\,a\,b\,e\,(16\,C\,d-B\,e)+b^2\,\left(25\,C\,d^2-e\,(B\,d+2\,A\,e)\right)\right)\Big)\,x\Big)$$

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

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

$$\sqrt{2}\,\sqrt{b^2-4\,a\,c}\,\Big(2\,c^4\,d^4\,\left(8\,C\,d^2+e\,(4\,B\,d+5\,A\,e)\right)+2\,b^2\,e^4\,\left(21\,a^2\,C\,e^2-6\,a\,b\,e\,(3\,C\,d+2\,B\,e)+b^2\,\left(5\,C\,d^2+4\,B\,d\,e+8\,A\,e^2\right)\right)-6\,c^2\,e^2\,\Big(a\,b\,d\,e\,\left(30\,C\,d^2-5\,B\,d\,e-34\,A\,e^2\right)-a^2\,e^2\,\left(30\,C\,d^2-36\,B\,d\,e+7\,A\,e^2\right)-$$

$$b^2 d^2 \left(11 C d^2 + 3 B d e + 11 A e^2\right)\Big) - c e^3 \left(126 a^3 C e^3 - 3 a^2 b e^2 \left(12 C d + 29 B e\right) - 6 a b^2 e \left(5 C d^2 + 7 B d e - 12 A e^2\right) + b^3 d \left(20 C d^2 + 25 B d e + 56 A e^2\right)\right) + c^3 d^2 e \left(6 a e \left(11 C d^2 + 8 B d e - 34 A e^2\right) - b d \left(56 C d^2 + 5 e \left(5 B d + 4 A e\right)\right)\right)\Big) \sqrt{d + e x}$$

$$\sqrt{-\frac{c \left(a + b x + c x^2\right)}{b^2 - 4 a c}} \, \text{EllipticE}\left[\text{ArcSin}\left[\frac{\sqrt{\frac{b+\sqrt{b^2-4 a c}+2 c x}{\sqrt{b^2-4 a c}}}}{\sqrt{2}}\right], -\frac{2 \sqrt{b^2 - 4 a c}\, e}{2 c d - \left(b + \sqrt{b^2 - 4 a c}\right) e}\right] +$$

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

$$2 \sqrt{2} \sqrt{b^2 - 4 a c} \left(2 c^3 d^3 \left(8 C d^2 + e \left(4 B d + 5 A e\right)\right) + 3 c^2 d e \left(2 a e \left(9 C d^2 + 7 B d e - 9 A e^2\right) - b d \left(16 C d^2 + 7 B d e + 5 A e^2\right)\right) + 3 c e^2 \left(2 a^2 e^2 \left(17 C d - 5 B e\right) - a b e \left(41 C d^2 + 5 B d e - 9 A e^2\right) + b^2 d \left(15 C d^2 + 3 B d e + 7 A e^2\right)\right) - b e^3 \left(21 a^2 C e^2 - 6 a b e \left(3 C d + 2 B e\right) + b^2 \left(5 C d^2 + 4 B d e + 8 A e^2\right)\right)\right)$$

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

$$\text{EllipticF}\left[\text{ArcSin}\left[\frac{\sqrt{\frac{b+\sqrt{b^2-4 a c}+2 c x}{\sqrt{b^2-4 a c}}}}{\sqrt{2}}\right], -\frac{2 \sqrt{b^2 - 4 a c}\, e}{2 c d - \left(b + \sqrt{b^2 - 4 a c}\right) e}\right]$$

Result (type 4, 29 140 leaves) : Display of huge result suppressed!

Problem 266: Result unnecessarily involves complex numbers and more than twice size of optimal antiderivative.

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

Optimal (type 4, 724 leaves, 8 steps) :

$$\frac{1}{105 c^3 e}2 \left(24 b^2 C e^2 - c e \left(15 b C d + 28 b B e + 25 a C e\right) - c^2 \left(6 C d^2 - 7 e \left(3 B d + 5 A e\right)\right)\right) \sqrt{d + e x} \sqrt{a + b x + c x^2} - \frac{2 \left(2 c C d - 7 B c e + 6 b C e\right) \left(d + e x\right)^{3/2} \sqrt{a + b x + c x^2}}{35 c^2 e} + \frac{2 C \left(d + e x\right)^{5/2} \sqrt{a + b x + c x^2}}{7 c e} -$$

$$\left(\sqrt{2} \sqrt{b^2 - 4 a c} \left(48 b^3 C e^3 - 8 b c e^2 \left(9 b C d + 7 b B e + 13 a C e\right) + c^3 d \left(6 C d^2 - 7 e \left(3 B d + 20 A e\right)\right) + c^2 e \left(a e \left(82 C d + 63 B e\right) + b \left(12 C d^2 + 91 B d e + 70 A e^2\right)\right)\right) \sqrt{d + e x} \sqrt{-\frac{c \left(a + b x + c x^2\right)}{b^2 - 4 a c}} \text{EllipticE}\left[\text{ArcSin}\left[\frac{\sqrt{\frac{b+\sqrt{b^2-4 a c}+2 c x}{\sqrt{b^2-4 a c}}}}{\sqrt{2}}\right], -\frac{2 \sqrt{b^2 - 4 a c} e}{2 c d - \left(b + \sqrt{b^2 - 4 a c}\right) e}\right]\right) \Big/$$

$$\left(105 c^4 e^2 \sqrt{\frac{c \left(d + e x\right)}{2 c d - \left(b + \sqrt{b^2 - 4 a c}\right) e}} \sqrt{a + b x + c x^2}\right) - \left(2 \sqrt{2} \sqrt{b^2 - 4 a c} \left(c d^2 - b d e + a e^2\right) \left(24 b^2 C e^2 - c e \left(15 b C d + 28 b B e + 25 a C e\right) - c^2 \left(6 C d^2 - 7 e \left(3 B d + 5 A e\right)\right)\right) \sqrt{\frac{c \left(d + e x\right)}{2 c d - \left(b + \sqrt{b^2 - 4 a c}\right) e}} \sqrt{-\frac{c \left(a + b x + c x^2\right)}{b^2 - 4 a c}} \text{EllipticF}\left[\text{ArcSin}\left[\frac{\sqrt{\frac{b+\sqrt{b^2-4 a c}+2 c x}{\sqrt{b^2-4 a c}}}}{\sqrt{2}}\right], -\frac{2 \sqrt{b^2 - 4 a c} e}{2 c d - \left(b + \sqrt{b^2 - 4 a c}\right) e}\right]\right) \Big/ \left(105 c^4 e^2 \sqrt{d + e x} \sqrt{a + b x + c x^2}\right)$$

Result (type 4, 9972 leaves):

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

$$\left(\frac{1}{105\,c^3\,e}2\,\left(3\,c^2\,C\,d^2+42\,B\,c^2\,d\,e-33\,b\,c\,C\,d\,e-28\,b\,B\,c\,e^2+35\,A\,c^2\,e^2+24\,b^2\,C\,e^2-25\,a\,c\,C\,e^2\right)+\right.$$

$$\left.\frac{2\,\left(8\,c\,C\,d+7\,B\,c\,e-6\,b\,C\,e\right)\,x}{35\,c^2}+\frac{2\,C\,e\,x^2}{7\,c}\right)+\frac{1}{105\,c^3\,e^3\,\sqrt{a+x\,(b+c\,x)}}\,2\,\sqrt{a+b\,x+c\,x^2}$$

$$\left(\left(\left(-6\,c^3\,C\,d^3+21\,B\,c^3\,d^2\,e-12\,b\,c^2\,C\,d^2\,e-91\,b\,B\,c^2\,d\,e^2+140\,A\,c^3\,d\,e^2+72\,b^2\,c\,C\,d\,e^2-\right.\right.\right.$$

$$\left.82\,a\,c^2\,C\,d\,e^2+56\,b^2\,B\,c\,e^3-70\,A\,b\,c^2\,e^3-63\,a\,B\,c^2\,e^3-48\,b^3\,C\,e^3+104\,a\,b\,c\,C\,e^3\right)$$

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

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

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

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

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

$$\left.\left.\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\right],\,\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\right]-\text{EllipticF}\left[i\right.$$

$$\text{ArcSinh}\left[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right],\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]\Bigg)\Bigg)\Big/$$

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

$$\left.\sqrt{c+\frac{c d^2-b d e+a e^2}{(d+e x)^2}+\frac{-2 c d+b e}{d+e x}}\right)-\Bigg(21\,\mathrm{i}\,B c^3 d^2 e$$

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

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

$$\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\Big],\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\Big]-\text{EllipticF}\Big[\mathrm{i}$$

$$\text{ArcSinh}\left[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right],\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\Big]\Bigg)\Bigg)\Big/$$

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

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

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

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

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

$$\text{EllipticF}\left[\mathrm{i}\,\text{ArcSinh}\left[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right],\right.$$

$$\left.\left.\left.\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]\right)\right)\Big/\left(\left(c d^2-b d e+a e^2\right)\right.$$

$$\left.\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}\sqrt{c+\frac{c d^2-b d e+a e^2}{(d+e x)^2}+\frac{-2 c d+b e}{d+e x}}\right)+\left(91\,\mathrm{i}\,b\right.$$

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

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

$$\left.\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right],\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]-\text{EllipticF}\left[\mathrm{i}\right.$$

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

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

$$\sqrt{c+\frac{c d^2-b d e+a e^2}{(d+e x)^2}+\frac{-2 c d+b e}{d+e x}}\Bigg)-\Bigg(35\, i\, \sqrt{2}\, A c^3 d e^2$$

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

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

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

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

$$\left.\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]\Bigg)\Bigg)\Big/\Bigg(\left(c d^2-b d e+a e^2\right)$$

$$\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}\sqrt{c+\frac{c d^2-b d e+a e^2}{(d+e x)^2}+\frac{-2 c d+b e}{d+e x}}\Bigg)-$$

$$\Bigg(18\, i\, \sqrt{2}\, b^2 c C d e^2\left(2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}\right)$$

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

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

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

$$\text{EllipticF}\left[\mathbb{i}\,\text{ArcSinh}\left[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right],\right.$$

$$\left.\left.\left.\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]\right)\right)\Bigg/\left(\left(c d^2-b d e+a e^2\right)\right.$$

$$\left.\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}\sqrt{c+\frac{c d^2-b d e+a e^2}{(d+e x)^2}+\frac{-2 c d+b e}{d+e x}}\right)+\left(41\,\mathbb{i}\,a\right.$$

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

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

$$\left.\left.\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right],\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]-\text{EllipticF}\left[\mathbb{i}\right.$$

$$\left.\left.\left.\text{ArcSinh}\left[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right],\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]\right)\right)\Bigg/$$

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

$$\sqrt{c+\frac{c d^2-b d e+a e^2}{(d+e x)^2}+\frac{-2 c d+b e}{d+e x}}\Bigg)-\Bigg(14\, i \sqrt{2}\, b^2 B c e^3$$

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

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

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

$$\text{EllipticF}\Big[i\, \text{ArcSinh}\Big[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\Big],$$

$$\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\Big]\Bigg)\Bigg)\Bigg/\Bigg(\left(c d^2-b d e+a e^2\right)$$

$$\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}\sqrt{c+\frac{c d^2-b d e+a e^2}{(d+e x)^2}+\frac{-2 c d+b e}{d+e x}}\Bigg)+\Bigg(35\, i$$

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

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

$$\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\Big],\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\Big]-\text{EllipticF}\Big[i$$

$$\text{ArcSinh}\Big[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\Big],\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\Big]\Bigg)\Bigg)\Bigg/$$

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

$$\sqrt{c+\frac{c d^2-b d e+a e^2}{(d+e x)^2}+\frac{-2 c d+b e}{d+e x}}\Bigg)+\Bigg(63\, i\, a B c^2 e^3$$

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

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

$$\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\Big],\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\Big]-\text{EllipticF}\Big[i$$

$$\text{ArcSinh}\Big[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\Big],\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\Big]\Bigg)\Bigg)\Bigg/$$

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

$$\sqrt{c+\frac{c d^2-b d e+a e^2}{(d+e x)^2}+\frac{-2 c d+b e}{d+e x}}\Bigg)+\Bigg(12\, i\sqrt{2}\, b^3 C e^3$$

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

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

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

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

$$\left.\left.\left.\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]\right)\right) \Big/ \left(\left(c d^2-b d e+a e^2\right)\right.$$

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

$$\left(26 i \sqrt{2} a b c C e^3 \left(2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}\right)\right.$$

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

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

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

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

$$\left.\left.\left.\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\right]\right)\right)\Bigg/\Bigg(\left(c\,d^2-b\,d\,e+a\,e^2\right)$$

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

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

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

$$\left.\text{EllipticF}\left[\mathrm{i}\,\text{ArcSinh}\left[\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\right],\,\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\right]\right)\Bigg/$$

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

$$\Bigg(21\,\mathrm{i}\,B\,c^3\,d\,e\,\sqrt{1-\frac{2\left(c\,d^2-b\,d\,e+a\,e^2\right)}{\left(2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}\right)\left(d+e\,x\right)}}$$

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

$$\left.\text{EllipticF}\left[\mathrm{i}\,\text{ArcSinh}\left[\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\right],\,\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\right]\right)\Bigg/$$

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

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

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

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

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

$$\Bigg(14\,i\,\sqrt{2}\,b\,B\,c^2\,e^2\,\sqrt{1-\frac{2\left(c\,d^2-b\,d\,e+a\,e^2\right)}{\left(2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}\right)\,(d+e\,x)}}$$

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

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

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

$$\Bigg(35\,i\,A\,c^3\,e^2\,\sqrt{1-\frac{2\left(c\,d^2-b\,d\,e+a\,e^2\right)}{\left(2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}\right)\,(d+e\,x)}}$$

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

$$\left.\text{EllipticF}\left[\mathrm{i}\,\text{ArcSinh}\left[\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\right],\,\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\right]\right)\Bigg/$$

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

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

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

$$\left.\text{EllipticF}\left[\mathrm{i}\,\text{ArcSinh}\left[\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\right],\,\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\right]\right)\Bigg/$$

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

$$\left(25\,\mathrm{i}\,a\,c^2\,C\,e^2\,\sqrt{1-\frac{2\left(c\,d^2-b\,d\,e+a\,e^2\right)}{\left(2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}\right)\left(d+e\,x\right)}}\right.$$

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

$$\left.\text{EllipticF}\left[\mathrm{i}\,\text{ArcSinh}\left[\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\right],\,\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\right]\right)\Bigg/$$

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

Problem 267: Result unnecessarily involves complex numbers and more than twice size of optimal antiderivative.

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

Optimal (type 4, 557 leaves, 7 steps):

$$-\frac{2\left(2 c C d-5 B c e+4 b C e\right)\sqrt{d+e x}\,\sqrt{a+b x+c x^2}}{15 c^2 e}+\frac{2 C\left(d+e x\right)^{3/2}\sqrt{a+b x+c x^2}}{5 c e}+$$

$$\left(\sqrt{2}\,\sqrt{b^2-4 a c}\,\left(8 b^2 C e^2-c e\left(3 b C d+10 b B e+9 a C e\right)-c^2\left(2 C d^2-5 e\left(B d+3 A e\right)\right)\right)\sqrt{d+e x}\right.$$

$$\left.\sqrt{-\frac{c\left(a+b x+c x^2\right)}{b^2-4 a c}}\;\text{EllipticE}\left[\text{ArcSin}\left[\frac{\sqrt{\frac{b+\sqrt{b^2-4 a c}+2 c x}{\sqrt{b^2-4 a c}}}}{\sqrt{2}}\right],-\frac{2\sqrt{b^2-4 a c}\;e}{2 c d-\left(b+\sqrt{b^2-4 a c}\right)e}\right]\right)\Big/$$

$$\left(15 c^3 e^2\sqrt{\frac{c\left(d+e x\right)}{2 c d-\left(b+\sqrt{b^2-4 a c}\right)e}}\;\sqrt{a+b x+c x^2}\right)+$$

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

$$\left.\sqrt{-\frac{c\left(a+b x+c x^2\right)}{b^2-4 a c}}\;\text{EllipticF}\left[\text{ArcSin}\left[\frac{\sqrt{\frac{b+\sqrt{b^2-4 a c}+2 c x}{\sqrt{b^2-4 a c}}}}{\sqrt{2}}\right],-\frac{2\sqrt{b^2-4 a c}\;e}{2 c d-\left(b+\sqrt{b^2-4 a c}\right)e}\right]\right)\Big/$$

$$\left(15 c^3 e^2\sqrt{d+e x}\,\sqrt{a+b x+c x^2}\right)$$

Result (type 4, 5505 leaves) :

$$\frac{\left(\frac{2\,(c C d+5 B c e-4 b C e)}{15 c^2 e}+\frac{2 C x}{5 c}\right)\sqrt{d+e x}\,\left(a+b x+c x^2\right)}{\sqrt{a+x\left(b+c x\right)}}-\frac{1}{15 c^2 e^3\sqrt{a+x\left(b+c x\right)}}$$

$$2\sqrt{a+b x+c x^2}\left(\left(\left(2 c^2 C d^2-5 B c^2 d e+3 b c C d e+10 b B c e^2-15 A c^2 e^2-8 b^2 C e^2+9 a c C e^2\right)\right.\right.$$

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

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

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

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

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

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

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

$$\left.\left.\left.\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]\right)\right)\Big/\left(\sqrt{2}\left(c d^2-b d e+a e^2\right)\right.$$

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

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

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

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

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

$$\left.\left.\left.\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\right]\right)\right)\Big/\left(2\,\sqrt{2}\,\left(c\,d^2-b\,d\,e+a\,e^2\right)\right.$$

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

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

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

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

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

$$\left.\left.\left.\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]\right)\right) \Big/ \left(2\sqrt{2}\left(c d^2-b d e+a e^2\right)\right.$$

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

$$\left(5 i b B c e^2\left(2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}\right)\sqrt{1-\frac{2\left(c d^2-b d e+a e^2\right)}{\left(2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}\right)(d+e x)}}\right.$$

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

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

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

$$\left.\left.\left.\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]\right)\right) \Big/ \left(\sqrt{2}\left(c d^2-b d e+a e^2\right)\right.$$

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

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

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

$$\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\Big],\ \frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\Big]-\text{EllipticF}\Big[\mathbb{i}$$

$$\text{ArcSinh}\Big[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\Big],\ \frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\Big]\Bigg)\Bigg)\Bigg/$$

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

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

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

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

$$\Bigg(\text{EllipticE}\Big[\mathbb{i}\,\text{ArcSinh}\Big[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\Big],\ \frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\Big]-$$

$$\text{EllipticF}\Big[\mathbb{i}\,\text{ArcSinh}\Big[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\Big],$$

$$\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\Big]\Bigg)\Bigg)\Bigg/\Bigg(\left(c d^2-b d e+a e^2\right)$$

$$\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}\ \sqrt{c+\frac{c d^2-b d e+a e^2}{(d+e x)^2}+\frac{-2 c d+b e}{d+e x}}\Bigg)+$$

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

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

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

$$\text{EllipticF}\left[\mathrm{i}\,\text{ArcSinh}\left[\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\right],\right.$$

$$\left.\left.\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\right]\right)\right)\Big/\left(2\,\sqrt{2}\,\left(c\,d^2-b\,d\,e+a\,e^2\right)\right.$$

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

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

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

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

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

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

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

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

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

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

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

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

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

Problem 268: Result unnecessarily involves complex numbers and more than twice size of optimal antiderivative.

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

Optimal (type 4, 471 leaves, 6 steps):

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

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

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

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

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

$$\left(3\,c^2\,e^2\,\sqrt{d+e\,x}\,\sqrt{a+b\,x+c\,x^2}\right)$$

Result (type 4, 6180 leaves):

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

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

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

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

$$2\,(d+e\,x)\sqrt{c+\frac{c\,d^2}{(d+e\,x)^2}-\frac{b\,d\,e}{(d+e\,x)^2}+\frac{a\,e^2}{(d+e\,x)^2}-\frac{2\,c\,d}{d+e\,x}+\frac{b\,e}{d+e\,x}}$$

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

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

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

$$\text{EllipticF}\left[\mathrm{i}\,\text{ArcSinh}\left[\frac{\sqrt{2}\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\right],\right.$$

$$\left.\left.\left.\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\right]\right)\right)\Bigg/\left(\sqrt{2}\,(c\,d^2-b\,d\,e+a\,e^2)\right.$$

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

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

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

$$\left.\left.\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\right],\,\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\right]-\text{EllipticF}\left[\mathrm{i}\right.$$

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

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

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

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

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

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

$$\text{EllipticF}\left[\mathrm{i}\,\text{ArcSinh}\left[\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\right],\right.$$

$$\left.\left.\left.\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\right]\right)\right)\Bigg/\left(2\,\sqrt{2}\,\left(c\,d^2-b\,d\,e+a\,e^2\right)\right.$$

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

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

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

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

$$\mathrm{EllipticF}\left[\mathrm{i}\,\mathrm{ArcSinh}\left[\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\right],\right.$$

$$\left.\left.\left.\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\right]\right)\right)\Bigg/\left(\sqrt{2}\,\left(c\,d^2-b\,d\,e+a\,e^2\right)\right.$$

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

$$\left.\left.\left.\frac{2\, c\, d - b\, e - \sqrt{b^2 e^2 - 4\, a\, c\, e^2}}{2\, c\, d - b\, e + \sqrt{b^2 e^2 - 4\, a\, c\, e^2}}\right]\right)\right) \Big/ \left(\sqrt{2}\left(c\, d^2 - b\, d\, e + a\, e^2\right)\right.$$

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

$$\text{EllipticF}\left[i \text{ArcSinh}\left[\frac{\sqrt{2} \sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right], \frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right] \Bigg/$$

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

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

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

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

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

Problem 269: Result unnecessarily involves complex numbers and more than twice size of optimal antiderivative.

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

Optimal (type 4, 508 leaves, 6 steps):

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

$$\left(\sqrt{2}\sqrt{b^2-4 a c}\left(C e\left(b d-a e\right)-c\left(2 C d^2-e\left(B d-A e\right)\right)\right)\sqrt{d+e x}\sqrt{-\frac{c\left(a+b x+c x^2\right)}{b^2-4 a c}}\right.$$

$$\left.\text{EllipticE}\left[\text{ArcSin}\left[\frac{\sqrt{\frac{b+\sqrt{b^2-4 a c}+2 c x}{\sqrt{b^2-4 a c}}}}{\sqrt{2}}\right],-\frac{2\sqrt{b^2-4 a c}\,e}{2 c d-\left(b+\sqrt{b^2-4 a c}\right)e}\right]\right)\Bigg/$$

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

$$\left(2\sqrt{2}\sqrt{b^2-4 a c}\left(2 C d-B e\right)\sqrt{\frac{c\left(d+e x\right)}{2 c d-\left(b+\sqrt{b^2-4 a c}\right)e}}\sqrt{-\frac{c\left(a+b x+c x^2\right)}{b^2-4 a c}}\,\text{EllipticF}\left[\right.\right.$$

$$\left.\left.\text{ArcSin}\left[\frac{\sqrt{\frac{b+\sqrt{b^2-4 a c}+2 c x}{\sqrt{b^2-4 a c}}}}{\sqrt{2}}\right],-\frac{2\sqrt{b^2-4 a c}\,e}{2 c d-\left(b+\sqrt{b^2-4 a c}\right)e}\right]\right)\Bigg/\left(c e^2\sqrt{d+e x}\sqrt{a+b x+c x^2}\right)$$

Result (type 4, 3987 leaves):

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

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

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

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

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

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

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

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

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

$$\left.\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]\Bigg)\Bigg)\Bigg/\Bigg(\sqrt{2}\left(c d^2-b d e+a e^2\right)$$

$$\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}\sqrt{c+\frac{c d^2-b d e+a e^2}{(d+e x)^2}+\frac{-2 c d+b e}{d+e x}}\Bigg)-$$

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

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

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

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

$$\left.\left.\left.\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]\right)\right) \Big/ \left(2\sqrt{2}\left(c d^2-b d e+a e^2\right)\right.$$

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

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

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

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

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

$$\left.\left.\left.\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]\right)\right) \Big/ \left(2\sqrt{2}\left(c d^2-b d e+a e^2\right)\right.$$

$$\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}\;\sqrt{c+\frac{c\,d^2-b\,d\,e+a\,e^2}{(d+e\,x)^2}+\frac{-2\,c\,d+b\,e}{d+e\,x}}\Bigg)+$$

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

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

$$\Bigg(\text{EllipticE}\Big[\mathrm{i}\,\text{ArcSinh}\Big[\frac{\sqrt{2}\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\Big],\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\Big]-$$

$$\text{EllipticF}\Big[\mathrm{i}\,\text{ArcSinh}\Big[\frac{\sqrt{2}\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\Big],$$

$$\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\Big]\Bigg)\Bigg)\Bigg/\Bigg(2\sqrt{2}\left(c\,d^2-b\,d\,e+a\,e^2\right)$$

$$\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}\;\sqrt{c+\frac{c\,d^2-b\,d\,e+a\,e^2}{(d+e\,x)^2}+\frac{-2\,c\,d+b\,e}{d+e\,x}}\Bigg)+$$

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

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

$$\Bigg(\text{EllipticE}\Big[\mathrm{i}\,\text{ArcSinh}\Big[\frac{\sqrt{2}\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\Big],\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\Big]-$$

$$\text{EllipticF}\left[\mathbb{i}\,\text{ArcSinh}\left[\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\right],\right.$$

$$\left.\left.\left.\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\right]\right)\right)\Big/\left(2\,\sqrt{2}\,\left(c\,d^2-b\,d\,e+a\,e^2\right)\right.$$

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

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

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

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

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

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

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

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

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

Problem 270: Result unnecessarily involves complex numbers and more than twice size of optimal antiderivative.

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

Optimal (type 4, 684 leaves, 7 steps):

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

$$\left(2\left(c d\left(2 C d^2+e\left(B d-4 A e\right)\right)+e\left(3 a e\left(2 C d-B e\right)-b\left(4 C d^2-B d e-2 A e^2\right)\right)\right)\sqrt{a+b x+c x^2}\right)\Big/$$

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

$$\left(c d\left(2 C d^2+e\left(B d-4 A e\right)\right)+e\left(3 a e\left(2 C d-B e\right)-b\left(4 C d^2-B d e-2 A e^2\right)\right)\right)\sqrt{d+e x}$$

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

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

$$\left(2\sqrt{2}\sqrt{b^2-4 a c}\left(3 C e\left(b d-a e\right)-c\left(2 C d^2+e\left(B d-A e\right)\right)\right)\sqrt{\frac{c\left(d+e x\right)}{2 c d-\left(b+\sqrt{b^2-4 a c}\right)e}}\right.$$

$$\left.\sqrt{-\frac{c\left(a+b x+c x^2\right)}{b^2-4 a c}}\,\text{EllipticF}\left[\text{ArcSin}\left[\frac{\sqrt{\frac{b+\sqrt{b^2-4 a c}+2 c x}{\sqrt{b^2-4 a c}}}}{\sqrt{2}}\right],-\frac{2\sqrt{b^2-4 a c}\,e}{2 c d-\left(b+\sqrt{b^2-4 a c}\right)e}\right]\right)\Big/$$

$$\left(3 c e^2\left(c d^2-b d e+a e^2\right)\sqrt{d+e x}\sqrt{a+b x+c x^2}\right)$$

Result (type 4, 6924 leaves):

$$\frac{1}{\sqrt{a+x\left(b+c x\right)}}\sqrt{d+e x}\left(a+b x+c x^2\right)\left(-\frac{2\left(C d^2-B d e+A e^2\right)}{3 e\left(c d^2-b d e+a e^2\right)\left(d+e x\right)^2}-\right.$$

$$\left(2\left(-2 c C d^3-B c d^2 e+4 b C d^2 e-b B d e^2+4 A c d e^2-6 a C d e^2-2 A b e^3+3 a B e^3\right)\right)\Big/$$

$$\left(3\,e\,\left(c\,d^2-b\,d\,e+a\,e^2\right)^2\,\left(d+e\,x\right)\right)\Bigg)+$$

$$\frac{1}{3\,e^3\,\left(c\,d^2-b\,d\,e+a\,e^2\right)^2\,\sqrt{a+x\,\left(b+c\,x\right)}}\,2\,\sqrt{a+b\,x+c\,x^2}$$

$$\Bigg(\Bigg(\left(-2\,c\,C\,d^3-B\,c\,d^2\,e+4\,b\,C\,d^2\,e-b\,B\,d\,e^2+4\,A\,c\,d\,e^2-6\,a\,C\,d\,e^2-2\,A\,b\,e^3+3\,a\,B\,e^3\right)\,\left(d+e\,x\right)^{3/2}$$

$$\left(c+\frac{c\,d^2}{\left(d+e\,x\right)^2}-\frac{b\,d\,e}{\left(d+e\,x\right)^2}+\frac{a\,e^2}{\left(d+e\,x\right)^2}-\frac{2\,c\,d}{d+e\,x}+\frac{b\,e}{d+e\,x}\right)\Bigg)\Bigg/$$

$$\left(\sqrt{\frac{\left(d+e\,x\right)^2\,\left(c\,\left(-1+\frac{d}{d+e\,x}\right)^2+\frac{e\,\left(b-\frac{b\,d}{d+e\,x}+\frac{a\,e}{d+e\,x}\right)}{d+e\,x}\right)}{e^2}}\right)+\frac{1}{\sqrt{\frac{\left(d+e\,x\right)^2\,\left(c\,\left(-1+\frac{d}{d+e\,x}\right)^2+\frac{e\,\left(b-\frac{b\,d}{d+e\,x}+\frac{a\,e}{d+e\,x}\right)}{d+e\,x}\right)}{e^2}}}$$

$$\left(c\,d^2-b\,d\,e+a\,e^2\right)\,\left(d+e\,x\right)\,\sqrt{c+\frac{c\,d^2}{\left(d+e\,x\right)^2}-\frac{b\,d\,e}{\left(d+e\,x\right)^2}+\frac{a\,e^2}{\left(d+e\,x\right)^2}-\frac{2\,c\,d}{d+e\,x}+\frac{b\,e}{d+e\,x}}$$

$$\Bigg(\Bigg(\mathbb{i}\,c\,C\,d^3\,\left(2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}\right)\,\sqrt{1-\frac{2\,\left(c\,d^2-b\,d\,e+a\,e^2\right)}{\left(2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}\right)\,\left(d+e\,x\right)}}$$

$$\sqrt{1-\frac{2\,\left(c\,d^2-b\,d\,e+a\,e^2\right)}{\left(2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}\right)\,\left(d+e\,x\right)}}$$

$$\left(\text{EllipticE}\left[\mathbb{i}\,\text{ArcSinh}\left[\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\right],\,\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\right]-\right.$$

$$\text{EllipticF}\left[\mathbb{i}\,\text{ArcSinh}\left[\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\right],\right.$$

$$\left.\left.\left.\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\right]\right)\right)\Bigg/\left(\sqrt{2}\,\left(c\,d^2-b\,d\,e+a\,e^2\right)\right.$$

$$\left.\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}\,\sqrt{c+\frac{c\,d^2-b\,d\,e+a\,e^2}{(d+e\,x)^2}+\frac{-2\,c\,d+b\,e}{d+e\,x}}\right)+$$

$$\left(\mathbb{i}\,B\,c\,d^2\,e\,\left(2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}\right)\,\sqrt{1-\frac{2\,\left(c\,d^2-b\,d\,e+a\,e^2\right)}{\left(2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}\right)\,(d+e\,x)}}\right.$$

$$\sqrt{1-\frac{2\,\left(c\,d^2-b\,d\,e+a\,e^2\right)}{\left(2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}\right)\,(d+e\,x)}}\,\left(\text{EllipticE}\left[\mathbb{i}\,\text{ArcSinh}\left[\right.\right.\right.$$

$$\left.\left.\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\right],\,\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\right]-\text{EllipticF}\left[\mathbb{i}\right.$$

$$\left.\left.\left.\text{ArcSinh}\left[\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\right],\,\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\right]\right)\right)\Bigg/$$

$$\left(2\,\sqrt{2}\,\left(c\,d^2-b\,d\,e+a\,e^2\right)\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}\right.$$

$$\left.\sqrt{c+\frac{c\,d^2-b\,d\,e+a\,e^2}{(d+e\,x)^2}+\frac{-2\,c\,d+b\,e}{d+e\,x}}\right)-\left(\mathbb{i}\,\sqrt{2}\,b\,C\,d^2\,e\right.$$

$$\left(2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}\right)\,\sqrt{1-\frac{2\,\left(c\,d^2-b\,d\,e+a\,e^2\right)}{\left(2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}\right)\,(d+e\,x)}}$$

$$\sqrt{1-\frac{2\,\left(c\,d^2-b\,d\,e+a\,e^2\right)}{\left(2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}\right)\,(d+e\,x)}}$$

$$\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right],\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]-\right.$$

$$\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right],\right.$$

$$\left.\left.\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]\right)\right)\Big/\left(\left(c d^2-b d e+a e^2\right)\right.$$

$$\left.\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}\sqrt{c+\frac{c d^2-b d e+a e^2}{(d+e x)^2}+\frac{-2 c d+b e}{d+e x}}\right)+$$

$$\left(i\,b\,B\,d\,e^2\left(2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}\right)\sqrt{1-\frac{2\left(c d^2-b d e+a e^2\right)}{\left(2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}\right)(d+e x)}}\right.$$

$$\sqrt{1-\frac{2\left(c d^2-b d e+a e^2\right)}{\left(2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}\right)(d+e x)}}\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\right.\right.\right.$$

$$\left.\left.\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right],\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]-\text{EllipticF}\left[i\right.$$

$$\left.\left.\left.\text{ArcSinh}\left[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right],\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]\right)\right)\Big/$$

$$\left(2\sqrt{2}\left(c d^2-b d e+a e^2\right)\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}\right.$$

$$\left.\sqrt{c+\frac{c d^2-b d e+a e^2}{(d+e x)^2}+\frac{-2 c d+b e}{d+e x}}\right)-\left(i\sqrt{2}\,A\,c\,d\,e^2\right.$$

$$\left(2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}\right)\sqrt{1-\frac{2\left(c\,d^2-b\,d\,e+a\,e^2\right)}{\left(2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}\right)(d+e\,x)}}$$

$$\sqrt{1-\frac{2\left(c\,d^2-b\,d\,e+a\,e^2\right)}{\left(2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}\right)(d+e\,x)}}$$

$$\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{2}\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\right],\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\right]-\right.$$

$$\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{2}\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\right],\right.$$

$$\left.\left.\left.\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\right]\right)\right)\Big/\left(\left(c\,d^2-b\,d\,e+a\,e^2\right)\right.$$

$$\left.\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}\sqrt{c+\frac{c\,d^2-b\,d\,e+a\,e^2}{(d+e\,x)^2}+\frac{-2\,c\,d+b\,e}{d+e\,x}}\right)+$$

$$\left(3\,i\,a\,C\,d\,e^2\left(2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}\right)\sqrt{1-\frac{2\left(c\,d^2-b\,d\,e+a\,e^2\right)}{\left(2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}\right)(d+e\,x)}}\right.$$

$$\sqrt{1-\frac{2\left(c\,d^2-b\,d\,e+a\,e^2\right)}{\left(2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}\right)(d+e\,x)}}$$

$$\left(\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{2}\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\right],\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\right]-\right.$$

$$\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{2}\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\right],\right.$$

$$\left.\left.\left.\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\right]\right)\right)\Bigg/\left(\sqrt{2}\,\left(c\,d^2-b\,d\,e+a\,e^2\right)\right.$$

$$\left.\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}\,\sqrt{c+\frac{c\,d^2-b\,d\,e+a\,e^2}{(d+e\,x)^2}+\frac{-2\,c\,d+b\,e}{d+e\,x}}\right)+$$

$$\left(\mathrm{i}\,A\,b\,e^3\,\left(2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}\right)\sqrt{1-\frac{2\,\left(c\,d^2-b\,d\,e+a\,e^2\right)}{\left(2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}\right)\,(d+e\,x)}}\right.$$

$$\sqrt{1-\frac{2\,\left(c\,d^2-b\,d\,e+a\,e^2\right)}{\left(2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}\right)\,(d+e\,x)}}$$

$$\left(\mathrm{EllipticE}\left[\mathrm{i}\,\mathrm{ArcSinh}\left[\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\right],\,\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\right]-\right.$$

$$\mathrm{EllipticF}\left[\mathrm{i}\,\mathrm{ArcSinh}\left[\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\right],\right.$$

$$\left.\left.\left.\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\right]\right)\right)\Bigg/\left(\sqrt{2}\,\left(c\,d^2-b\,d\,e+a\,e^2\right)\right.$$

$$\left.\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}\,\sqrt{c+\frac{c\,d^2-b\,d\,e+a\,e^2}{(d+e\,x)^2}+\frac{-2\,c\,d+b\,e}{d+e\,x}}\right)-$$

$$\left(3\,\mathrm{i}\,a\,B\,e^3\,\left(2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}\right)\sqrt{1-\frac{2\,\left(c\,d^2-b\,d\,e+a\,e^2\right)}{\left(2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}\right)\,(d+e\,x)}}\right.$$

$$\sqrt{1-\frac{2\,\left(c\,d^2-b\,d\,e+a\,e^2\right)}{\left(2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}\right)\,(d+e\,x)}}$$

$$\left(\text{EllipticE}\left[\mathrm{i}\,\text{ArcSinh}\left[\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\right],\,\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\right]-\right.$$

$$\text{EllipticF}\left[\mathrm{i}\,\text{ArcSinh}\left[\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\right],$$

$$\left.\left.\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\right]\right)\right)\Big/\left(2\,\sqrt{2}\,\left(c\,d^2-b\,d\,e+a\,e^2\right)\right.$$

$$\left.\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}\,\sqrt{c+\frac{c\,d^2-b\,d\,e+a\,e^2}{(d+e\,x)^2}+\frac{-2\,c\,d+b\,e}{d+e\,x}}\right)+$$

$$\left(\mathrm{i}\,\sqrt{2}\,c\,C\,d^2\,\sqrt{1-\frac{2\,\left(c\,d^2-b\,d\,e+a\,e^2\right)}{\left(2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}\right)\,(d+e\,x)}}\right.$$

$$\sqrt{1-\frac{2\,\left(c\,d^2-b\,d\,e+a\,e^2\right)}{\left(2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}\right)\,(d+e\,x)}}$$

$$\left.\text{EllipticF}\left[\mathrm{i}\,\text{ArcSinh}\left[\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\right],\,\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\right]\right)\Big/$$

$$\left(\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}\,\sqrt{c+\frac{c\,d^2-b\,d\,e+a\,e^2}{(d+e\,x)^2}+\frac{-2\,c\,d+b\,e}{d+e\,x}}\right)+$$

$$\left(\mathrm{i}\,B\,c\,d\,e\,\sqrt{1-\frac{2\,\left(c\,d^2-b\,d\,e+a\,e^2\right)}{\left(2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}\right)\,(d+e\,x)}}\right.$$

$$\sqrt{1-\frac{2\,\left(c\,d^2-b\,d\,e+a\,e^2\right)}{\left(2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}\right)\,(d+e\,x)}}$$

$$\text{EllipticF}\left[\mathbb{i}\,\text{ArcSinh}\left[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right],\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]\Bigg)\Bigg/$$

$$\left(\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}\sqrt{c+\frac{c d^2-b d e+a e^2}{(d+e x)^2}+\frac{-2 c d+b e}{d+e x}}\right)-$$

$$\Bigg(3\,\mathbb{i}\,b C d e\sqrt{1-\frac{2\left(c d^2-b d e+a e^2\right)}{\left(2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}\right)(d+e x)}}$$

$$\sqrt{1-\frac{2\left(c d^2-b d e+a e^2\right)}{\left(2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}\right)(d+e x)}}$$

$$\text{EllipticF}\left[\mathbb{i}\,\text{ArcSinh}\left[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right],\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]\Bigg)\Bigg/$$

$$\left(\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}\sqrt{c+\frac{c d^2-b d e+a e^2}{(d+e x)^2}+\frac{-2 c d+b e}{d+e x}}\right)-$$

$$\Bigg(\mathbb{i}\,A c e^2\sqrt{1-\frac{2\left(c d^2-b d e+a e^2\right)}{\left(2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}\right)(d+e x)}}$$

$$\sqrt{1-\frac{2\left(c d^2-b d e+a e^2\right)}{\left(2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}\right)(d+e x)}}$$

$$\text{EllipticF}\left[\mathbb{i}\,\text{ArcSinh}\left[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right],\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]\Bigg)\Bigg/$$

$$\left(\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}\sqrt{c+\frac{c d^2-b d e+a e^2}{(d+e x)^2}+\frac{-2 c d+b e}{d+e x}}\right)+$$

$$\left(3\,i\,a\,C\,e^2\sqrt{1-\frac{2\left(c\,d^2-b\,d\,e+a\,e^2\right)}{\left(2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}\right)(d+e\,x)}}\right.$$

$$\sqrt{1-\frac{2\left(c\,d^2-b\,d\,e+a\,e^2\right)}{\left(2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}\right)(d+e\,x)}}$$

$$\left.\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{2}\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\right],\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\right]\right)\Bigg/$$

$$\left.\left.\left(\sqrt{2}\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}\sqrt{c+\frac{c\,d^2-b\,d\,e+a\,e^2}{(d+e\,x)^2}+\frac{-2\,c\,d+b\,e}{d+e\,x}}\right)\right)\right)$$

Problem 271: Result unnecessarily involves complex numbers and more than twice size of optimal antiderivative.

$$\int\frac{A+B\,x+C\,x^2}{(d+e\,x)^{7/2}\sqrt{a+b\,x+c\,x^2}}\,dx$$

Optimal (type 4, 944 leaves, 8 steps):

$$-\frac{2\left(C\,d^2-e\,(B\,d-A\,e)\right)\sqrt{a+b\,x+c\,x^2}}{5\,e\left(c\,d^2-b\,d\,e+a\,e^2\right)(d+e\,x)^{5/2}}+$$

$$\left(2\left(c\,d\left(2\,C\,d^2+e\,(3\,B\,d-8\,A\,e)\right)+e\left(5\,a\,e\,(2\,C\,d-B\,e)-b\left(6\,C\,d^2-B\,d\,e-4\,A\,e^2\right)\right)\right)\sqrt{a+b\,x+c\,x^2}\right)\Big/$$

$$\left(15\,e\left(c\,d^2-b\,d\,e+a\,e^2\right)^2(d+e\,x)^{3/2}\right)+\left(2\left(c^2\,d^2\left(2\,C\,d^2+e\,(3\,B\,d-23\,A\,e)\right)-\right.\right.$$

$$e^2\left(15\,a^2\,C\,e^2-10\,a\,b\,e\,(C\,d+B\,e)+b^2\left(3\,C\,d^2+2\,B\,d\,e+8\,A\,e^2\right)\right)-$$

$$\left.\left.c\,e\left(b\,d\left(7\,C\,d^2-7\,B\,d\,e-23\,A\,e^2\right)-a\,e\left(19\,C\,d^2-29\,B\,d\,e+9\,A\,e^2\right)\right)\right)\sqrt{a+b\,x+c\,x^2}\right)\Big/$$

$$\left(15\,e\left(c\,d^2-b\,d\,e+a\,e^2\right)^3\sqrt{d+e\,x}\right)-\left(\sqrt{2}\sqrt{b^2-4\,a\,c}\left(c^2\,d^2\left(2\,C\,d^2+e\,(3\,B\,d-23\,A\,e)\right)-\right.\right.$$

$$e^2\left(15\,a^2\,C\,e^2-10\,a\,b\,e\,(C\,d+B\,e)+b^2\left(3\,C\,d^2+2\,B\,d\,e+8\,A\,e^2\right)\right)-$$

$$c\,e\,\left(b\,d\,\left(7\,C\,d^2-7\,B\,d\,e-23\,A\,e^2\right)-a\,e\,\left(19\,C\,d^2-29\,B\,d\,e+9\,A\,e^2\right)\right)\right)\sqrt{d+e\,x}$$

$$\sqrt{-\frac{c\,\left(a+b\,x+c\,x^2\right)}{b^2-4\,a\,c}}\;\text{EllipticE}\left[\text{ArcSin}\left[\frac{\sqrt{\frac{b+\sqrt{b^2-4\,a\,c}+2\,c\,x}{\sqrt{b^2-4\,a\,c}}}}{\sqrt{2}}\right],-\frac{2\,\sqrt{b^2-4\,a\,c}\,e}{2\,c\,d-\left(b+\sqrt{b^2-4\,a\,c}\right)\,e}\right]\Bigg)\Bigg/$$

$$\left(15\,e^2\,\left(c\,d^2-b\,d\,e+a\,e^2\right)^3\,\sqrt{\frac{c\,\left(d+e\,x\right)}{2\,c\,d-\left(b+\sqrt{b^2-4\,a\,c}\right)\,e}}\,\sqrt{a+b\,x+c\,x^2}\right)+$$

$$\Bigg(2\,\sqrt{2}\,\sqrt{b^2-4\,a\,c}\,\left(c\,d\,\left(2\,C\,d^2+e\,\left(3\,B\,d-8\,A\,e\right)\right)+e\,\left(5\,a\,e\,\left(2\,C\,d-B\,e\right)-b\,\left(6\,C\,d^2-B\,d\,e-4\,A\,e^2\right)\right)\right)$$

$$\sqrt{\frac{c\,\left(d+e\,x\right)}{2\,c\,d-\left(b+\sqrt{b^2-4\,a\,c}\right)\,e}}\,\sqrt{-\frac{c\,\left(a+b\,x+c\,x^2\right)}{b^2-4\,a\,c}}$$

$$\text{EllipticF}\left[\text{ArcSin}\left[\frac{\sqrt{\frac{b+\sqrt{b^2-4\,a\,c}+2\,c\,x}{\sqrt{b^2-4\,a\,c}}}}{\sqrt{2}}\right],-\frac{2\,\sqrt{b^2-4\,a\,c}\,e}{2\,c\,d-\left(b+\sqrt{b^2-4\,a\,c}\right)\,e}\right]\Bigg)\Bigg/$$

$$\left(15\,e^2\,\left(c\,d^2-b\,d\,e+a\,e^2\right)^2\,\sqrt{d+e\,x}\,\sqrt{a+b\,x+c\,x^2}\right)$$

Result (type 4, 12 295 leaves):

$$\frac{1}{\sqrt{a+x\,\left(b+c\,x\right)}}\sqrt{d+e\,x}\,\left(a+b\,x+c\,x^2\right)\left(-\frac{2\,\left(C\,d^2-B\,d\,e+A\,e^2\right)}{5\,e\,\left(c\,d^2-b\,d\,e+a\,e^2\right)\,\left(d+e\,x\right)^3}-\right.$$

$$\left(2\,\left(-2\,c\,C\,d^3-3\,B\,c\,d^2\,e+6\,b\,C\,d^2\,e-b\,B\,d\,e^2+8\,A\,c\,d\,e^2-10\,a\,C\,d\,e^2-4\,A\,b\,e^3+5\,a\,B\,e^3\right)\right)\Big/$$

$$\left(15\,e\,\left(c\,d^2-b\,d\,e+a\,e^2\right)^2\,\left(d+e\,x\right)^2\right)-$$

$$\Big(2\,\Big(-2\,c^2\,C\,d^4-3\,B\,c^2\,d^3\,e+7\,b\,c\,C\,d^3\,e-7\,b\,B\,c\,d^2\,e^2+23\,A\,c^2\,d^2\,e^2+3\,b^2\,C\,d^2\,e^2-$$

$$19\,a\,c\,C\,d^2\,e^2+2\,b^2\,B\,d\,e^3-23\,A\,b\,c\,d\,e^3+29\,a\,B\,c\,d\,e^3-10\,a\,b\,C\,d\,e^3+8\,A\,b^2\,e^4-$$

$$\left.10\,a\,b\,B\,e^4-9\,a\,A\,c\,e^4+15\,a^2\,C\,e^4\Big)\Big)\Big/\left(15\,e\,\left(c\,d^2-b\,d\,e+a\,e^2\right)^3\,\left(d+e\,x\right)\right)\right)+$$

$$\frac{1}{15\,e^3\,\left(c\,d^2-b\,d\,e+a\,e^2\right)^3\,\sqrt{a+x\,\left(b+c\,x\right)}}\,2\,c\,\sqrt{a+b\,x+c\,x^2}$$

$$\Bigg(\bigg(\Big(-2 c^2 C d^4 - 3 B c^2 d^3 e + 7 b c C d^3 e - 7 b B c d^2 e^2 + 23 A c^2 d^2 e^2 + 3 b^2 C d^2 e^2 - 19 a c C d^2 e^2 +$$

$$2 b^2 B d e^3 - 23 A b c d e^3 + 29 a B c d e^3 - 10 a b C d e^3 + 8 A b^2 e^4 - 10 a b B e^4 - 9 a A c e^4 +$$

$$15 a^2 C e^4\Big) \left(d+e x\right)^{3/2} \left(c + \frac{c d^2}{(d+e x)^2} - \frac{b d e}{(d+e x)^2} + \frac{a e^2}{(d+e x)^2} - \frac{2 c d}{d+e x} + \frac{b e}{d+e x}\right)\bigg) \Bigg/$$

$$\left(c \sqrt{\frac{(d+e x)^2 \left(c \left(-1+\frac{d}{d+e x}\right)^2 + \frac{e \left(b - \frac{b d}{d+e x} + \frac{a e}{d+e x}\right)}{d+e x}\right)}{e^2}}\right) + \frac{1}{c \sqrt{\frac{(d+e x)^2 \left(c \left(-1+\frac{d}{d+e x}\right)^2 + \frac{e \left(b - \frac{b d}{d+e x} + \frac{a e}{d+e x}\right)}{d+e x}\right)}{e^2}}}$$

$$\left(c d^2 - b d e + a e^2\right) (d+e x) \sqrt{c + \frac{c d^2}{(d+e x)^2} - \frac{b d e}{(d+e x)^2} + \frac{a e^2}{(d+e x)^2} - \frac{2 c d}{d+e x} + \frac{b e}{d+e x}}$$

$$\Bigg(\bigg(\mathrm{i}\, c^2 C d^4 \left(2 c d - b e + \sqrt{b^2 e^2 - 4 a c e^2}\right) \sqrt{1 - \frac{2 \left(c d^2 - b d e + a e^2\right)}{\left(2 c d - b e - \sqrt{b^2 e^2 - 4 a c e^2}\right) (d+e x)}}$$

$$\sqrt{1 - \frac{2 \left(c d^2 - b d e + a e^2\right)}{\left(2 c d - b e + \sqrt{b^2 e^2 - 4 a c e^2}\right) (d+e x)}}$$

$$\Bigg(\text{EllipticE}\Big[\mathrm{i}\, \text{ArcSinh}\Big[\frac{\sqrt{2} \sqrt{-\frac{c d^2 - b d e + a e^2}{2 c d - b e - \sqrt{b^2 e^2 - 4 a c e^2}}}}{\sqrt{d+e x}}\Big], \frac{2 c d - b e - \sqrt{b^2 e^2 - 4 a c e^2}}{2 c d - b e + \sqrt{b^2 e^2 - 4 a c e^2}}\Big] -$$

$$\text{EllipticF}\Big[\mathrm{i}\, \text{ArcSinh}\Big[\frac{\sqrt{2} \sqrt{-\frac{c d^2 - b d e + a e^2}{2 c d - b e - \sqrt{b^2 e^2 - 4 a c e^2}}}}{\sqrt{d+e x}}\Big],$$

$$\frac{2 c d - b e - \sqrt{b^2 e^2 - 4 a c e^2}}{2 c d - b e + \sqrt{b^2 e^2 - 4 a c e^2}}\Big]\Bigg)\bigg) \Bigg/ \Bigg(\sqrt{2} \left(c d^2 - b d e + a e^2\right)$$

$$\sqrt{-\frac{c d^2 - b d e + a e^2}{2 c d - b e - \sqrt{b^2 e^2 - 4 a c e^2}}} \sqrt{c + \frac{c d^2 - b d e + a e^2}{(d + e x)^2} + \frac{-2 c d + b e}{d + e x}}\Bigg) +$$

$$\Bigg(3 i B c^2 d^3 e \left(2 c d - b e + \sqrt{b^2 e^2 - 4 a c e^2}\right) \sqrt{1 - \frac{2 (c d^2 - b d e + a e^2)}{\left(2 c d - b e - \sqrt{b^2 e^2 - 4 a c e^2}\right) (d + e x)}}$$

$$\sqrt{1 - \frac{2 (c d^2 - b d e + a e^2)}{\left(2 c d - b e + \sqrt{b^2 e^2 - 4 a c e^2}\right) (d + e x)}} \Bigg(\text{EllipticE}\Big[i \text{ArcSinh}\Big[$$

$$\frac{\sqrt{2} \sqrt{-\frac{c d^2 - b d e + a e^2}{2 c d - b e - \sqrt{b^2 e^2 - 4 a c e^2}}}}{\sqrt{d + e x}}\Big], \frac{2 c d - b e - \sqrt{b^2 e^2 - 4 a c e^2}}{2 c d - b e + \sqrt{b^2 e^2 - 4 a c e^2}}\Big] - \text{EllipticF}\Big[i$$

$$\text{ArcSinh}\Big[\frac{\sqrt{2} \sqrt{-\frac{c d^2 - b d e + a e^2}{2 c d - b e - \sqrt{b^2 e^2 - 4 a c e^2}}}}{\sqrt{d + e x}}\Big], \frac{2 c d - b e - \sqrt{b^2 e^2 - 4 a c e^2}}{2 c d - b e + \sqrt{b^2 e^2 - 4 a c e^2}}\Big]\Bigg)\Bigg) \Big/$$

$$\Bigg(2 \sqrt{2} (c d^2 - b d e + a e^2) \sqrt{-\frac{c d^2 - b d e + a e^2}{2 c d - b e - \sqrt{b^2 e^2 - 4 a c e^2}}}$$

$$\sqrt{c + \frac{c d^2 - b d e + a e^2}{(d + e x)^2} + \frac{-2 c d + b e}{d + e x}}\Bigg) - \Bigg(7 i b c C d^3 e$$

$$\left(2 c d - b e + \sqrt{b^2 e^2 - 4 a c e^2}\right) \sqrt{1 - \frac{2 (c d^2 - b d e + a e^2)}{\left(2 c d - b e - \sqrt{b^2 e^2 - 4 a c e^2}\right) (d + e x)}}$$

$$\sqrt{1 - \frac{2 (c d^2 - b d e + a e^2)}{\left(2 c d - b e + \sqrt{b^2 e^2 - 4 a c e^2}\right) (d + e x)}} \Bigg(\text{EllipticE}\Big[i \text{ArcSinh}\Big[$$

$$\frac{\sqrt{2} \sqrt{-\frac{c d^2 - b d e + a e^2}{2 c d - b e - \sqrt{b^2 e^2 - 4 a c e^2}}}}{\sqrt{d + e x}}\Big], \frac{2 c d - b e - \sqrt{b^2 e^2 - 4 a c e^2}}{2 c d - b e + \sqrt{b^2 e^2 - 4 a c e^2}}\Big] - \text{EllipticF}\Big[i$$

$$\text{ArcSinh}\Big[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\Big],\ \frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\Big]\Bigg)\Bigg)\Bigg/$$

$$\Bigg(2\sqrt{2}\left(c d^2-b d e+a e^2\right)\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}$$

$$\sqrt{c+\frac{c d^2-b d e+a e^2}{(d+e x)^2}+\frac{-2 c d+b e}{d+e x}}\Bigg)+\Bigg(7\,\mathrm{i}\, b B c d^2 e^2$$

$$\left(2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}\right)\sqrt{1-\frac{2\left(c d^2-b d e+a e^2\right)}{\left(2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}\right)(d+e x)}}$$

$$\sqrt{1-\frac{2\left(c d^2-b d e+a e^2\right)}{\left(2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}\right)(d+e x)}}\ \Bigg(\text{EllipticE}\Big[\mathrm{i}\,\text{ArcSinh}\Big[$$

$$\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\Big],\ \frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\Big]-\text{EllipticF}\Big[\mathrm{i}$$

$$\text{ArcSinh}\Big[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\Big],\ \frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\Big]\Bigg)\Bigg)\Bigg/$$

$$\Bigg(2\sqrt{2}\left(c d^2-b d e+a e^2\right)\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}$$

$$\sqrt{c+\frac{c d^2-b d e+a e^2}{(d+e x)^2}+\frac{-2 c d+b e}{d+e x}}\Bigg)-\Bigg(23\,\mathrm{i}\, A c^2 d^2 e^2$$

$$\left(2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}\right)\sqrt{1-\frac{2\left(c d^2-b d e+a e^2\right)}{\left(2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}\right)(d+e x)}}$$

$$\sqrt{1-\frac{2\left(c d^2-b d e+a e^2\right)}{\left(2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}\right)(d+e x)}}\left(\text{EllipticE}\left[\mathbb{i}\,\text{ArcSinh}\left[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right],\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]-\text{EllipticF}\left[\mathbb{i}\,\text{ArcSinh}\left[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right],\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]\right)\right)\Big/$$

$$\left(2\sqrt{2}\left(c d^2-b d e+a e^2\right)\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}\sqrt{c+\frac{c d^2-b d e+a e^2}{(d+e x)^2}+\frac{-2 c d+b e}{d+e x}}\right)-\Bigg(3\,\mathbb{i}\,b^2 C d^2 e^2$$

$$\left(2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}\right)\sqrt{1-\frac{2\left(c d^2-b d e+a e^2\right)}{\left(2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}\right)(d+e x)}}$$

$$\sqrt{1-\frac{2\left(c d^2-b d e+a e^2\right)}{\left(2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}\right)(d+e x)}}\left(\text{EllipticE}\left[\mathbb{i}\,\text{ArcSinh}\left[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right],\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]-\text{EllipticF}\left[\mathbb{i}\,\text{ArcSinh}\left[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right],\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]\right)\right)\Big/$$

$$\left(2\sqrt{2}\left(c d^2-b d e+a e^2\right)\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}\right.$$

$$\sqrt{c+\frac{c d^2-b d e+a e^2}{(d+e x)^2}+\frac{-2 c d+b e}{d+e x}}\Bigg)+\Bigg(19\, i\, a c C d^2 e^2$$

$$\left(2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}\right)\sqrt{1-\frac{2\left(c d^2-b d e+a e^2\right)}{\left(2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}\right)(d+e x)}}$$

$$\sqrt{1-\frac{2\left(c d^2-b d e+a e^2\right)}{\left(2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}\right)(d+e x)}}$$

$$\Bigg(\text{EllipticE}\Bigg[i\,\text{ArcSinh}\Bigg[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\Bigg],\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\Bigg]-$$

$$\text{EllipticF}\Bigg[i\,\text{ArcSinh}\Bigg[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\Bigg],$$

$$\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\Bigg]\Bigg)\Bigg)\Bigg/\Bigg(2\sqrt{2}\left(c d^2-b d e+a e^2\right)$$

$$\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}\sqrt{c+\frac{c d^2-b d e+a e^2}{(d+e x)^2}+\frac{-2 c d+b e}{d+e x}}\Bigg)-$$

$$\Bigg(i\, b^2 B d e^3\left(2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}\right)\sqrt{1-\frac{2\left(c d^2-b d e+a e^2\right)}{\left(2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}\right)(d+e x)}}$$

$$\sqrt{1-\frac{2\left(c d^2-b d e+a e^2\right)}{\left(2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}\right)(d+e x)}}\Bigg(\text{EllipticE}\Bigg[i\,\text{ArcSinh}\Bigg[$$

$$\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\Bigg],\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\Bigg]-\text{EllipticF}\Big[i$$

$$\text{ArcSinh}\Big[\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\Big],\ \frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\Big]\Bigg)\Bigg)\Big/$$

$$\Bigg(\sqrt{2}\,\left(c\,d^2-b\,d\,e+a\,e^2\right)\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}$$

$$\sqrt{c+\frac{c\,d^2-b\,d\,e+a\,e^2}{(d+e\,x)^2}+\frac{-2\,c\,d+b\,e}{d+e\,x}}\Bigg)+\Bigg(23\,\mathbb{i}\,A\,b\,c\,d\,e^3$$

$$\left(2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}\right)\sqrt{1-\frac{2\left(c\,d^2-b\,d\,e+a\,e^2\right)}{\left(2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}\right)(d+e\,x)}}$$

$$\sqrt{1-\frac{2\left(c\,d^2-b\,d\,e+a\,e^2\right)}{\left(2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}\right)(d+e\,x)}}\ \Bigg(\text{EllipticE}\Big[\mathbb{i}\,\text{ArcSinh}\Big[$$

$$\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\Big],\ \frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\Big]-\text{EllipticF}\Big[\mathbb{i}$$

$$\text{ArcSinh}\Big[\frac{\sqrt{2}\,\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\Big],\ \frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\Big]\Bigg)\Bigg)\Big/$$

$$\Bigg(2\,\sqrt{2}\,\left(c\,d^2-b\,d\,e+a\,e^2\right)\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}$$

$$\sqrt{c+\frac{c\,d^2-b\,d\,e+a\,e^2}{(d+e\,x)^2}+\frac{-2\,c\,d+b\,e}{d+e\,x}}\Bigg)-\Bigg(29\,\mathbb{i}\,a\,B\,c\,d\,e^3$$

$$\left(2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}\right)\sqrt{1-\frac{2\left(c\,d^2-b\,d\,e+a\,e^2\right)}{\left(2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}\right)(d+e\,x)}}$$

$$\sqrt{1-\frac{2\left(c d^2-b d e+a e^2\right)}{\left(2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}\right)(d+e x)}}\left(\text{EllipticE}\left[\mathbb{i}\,\text{ArcSinh}\left[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right],\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]-\text{EllipticF}\left[\mathbb{i}\,\text{ArcSinh}\left[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right],\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]\right)\Bigg)\Bigg/$$

$$\left(2\sqrt{2}\left(c d^2-b d e+a e^2\right)\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}\sqrt{c+\frac{c d^2-b d e+a e^2}{(d+e x)^2}+\frac{-2 c d+b e}{d+e x}}\right)+\Bigg(5\,\mathbb{i}\,a b C d e^3$$

$$\left(2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}\right)\sqrt{1-\frac{2\left(c d^2-b d e+a e^2\right)}{\left(2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}\right)(d+e x)}}$$

$$\sqrt{1-\frac{2\left(c d^2-b d e+a e^2\right)}{\left(2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}\right)(d+e x)}}\left(\text{EllipticE}\left[\mathbb{i}\,\text{ArcSinh}\left[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right],\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]-\text{EllipticF}\left[\mathbb{i}\,\text{ArcSinh}\left[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right],\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]\right)\Bigg)\Bigg/$$

$$\left(\sqrt{2}\left(c d^2-b d e+a e^2\right)\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}\right.$$

$$\sqrt{c+\frac{c\,d^2-b\,d\,e+a\,e^2}{(d+e\,x)^2}+\frac{-2\,c\,d+b\,e}{d+e\,x}}\Bigg) - \Bigg(2\,i\,\sqrt{2}\,A\,b^2\,e^4$$

$$\left(2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}\right)\sqrt{1-\frac{2\,(c\,d^2-b\,d\,e+a\,e^2)}{\left(2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}\right)(d+e\,x)}}$$

$$\sqrt{1-\frac{2\,(c\,d^2-b\,d\,e+a\,e^2)}{\left(2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}\right)(d+e\,x)}}$$

$$\Bigg(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{2}\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\Big],\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\Big] -$$

$$\text{EllipticF}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{2}\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\Big],$$

$$\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\Big]\Bigg)\Bigg) \Bigg/ \Bigg((c\,d^2-b\,d\,e+a\,e^2)$$

$$\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}\;\sqrt{c+\frac{c\,d^2-b\,d\,e+a\,e^2}{(d+e\,x)^2}+\frac{-2\,c\,d+b\,e}{d+e\,x}}\Bigg) +$$

$$\Bigg(5\,i\,a\,b\,B\,e^4\left(2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}\right)\sqrt{1-\frac{2\,(c\,d^2-b\,d\,e+a\,e^2)}{\left(2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}\right)(d+e\,x)}}$$

$$\sqrt{1-\frac{2\,(c\,d^2-b\,d\,e+a\,e^2)}{\left(2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}\right)(d+e\,x)}}$$

$$\Bigg(\text{EllipticE}\Big[i\,\text{ArcSinh}\Big[\frac{\sqrt{2}\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\Big],\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\Big] -$$

$$\text{EllipticF}\left[\text{i}\,\text{ArcSinh}\left[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right],\right.$$

$$\left.\left.\left.\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]\right)\right) \Big/ \left(\sqrt{2}\left(c d^2-b d e+a e^2\right)\right.$$

$$\left.\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}\sqrt{c+\frac{c d^2-b d e+a e^2}{(d+e x)^2}+\frac{-2 c d+b e}{d+e x}}\right)+$$

$$\left(9\,\text{i}\,a A c e^4\left(2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}\right)\sqrt{1-\frac{2\left(c d^2-b d e+a e^2\right)}{\left(2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}\right)(d+e x)}}\right.$$

$$\sqrt{1-\frac{2\left(c d^2-b d e+a e^2\right)}{\left(2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}\right)(d+e x)}}$$

$$\left(\text{EllipticE}\left[\text{i}\,\text{ArcSinh}\left[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right],\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]-\right.$$

$$\text{EllipticF}\left[\text{i}\,\text{ArcSinh}\left[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right],\right.$$

$$\left.\left.\left.\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]\right)\right) \Big/ \left(2\sqrt{2}\left(c d^2-b d e+a e^2\right)\right.$$

$$\left.\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}\sqrt{c+\frac{c d^2-b d e+a e^2}{(d+e x)^2}+\frac{-2 c d+b e}{d+e x}}\right)-$$

$$\left(15\,\text{i}\,a^2 C e^4\left(2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}\right)\sqrt{1-\frac{2\left(c d^2-b d e+a e^2\right)}{\left(2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}\right)(d+e x)}}\right.$$

$$\sqrt{1-\frac{2\left(c d^2-b d e+a e^2\right)}{\left(2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}\right)(d+e x)}}$$

$$\left(\text{EllipticE}\left[i \text{ArcSinh}\left[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right],\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]-\right.$$

$$\text{EllipticF}\left[i \text{ArcSinh}\left[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right],\right.$$

$$\left.\left.\left.\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]\right)\right)\Bigg/\left(2\sqrt{2}\left(c d^2-b d e+a e^2\right)\right.$$

$$\left.\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}\sqrt{c+\frac{c d^2-b d e+a e^2}{(d+e x)^2}+\frac{-2 c d+b e}{d+e x}}\right)+$$

$$\left(i\sqrt{2}\, c^2 C d^3\sqrt{1-\frac{2\left(c d^2-b d e+a e^2\right)}{\left(2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}\right)(d+e x)}}\right.$$

$$\sqrt{1-\frac{2\left(c d^2-b d e+a e^2\right)}{\left(2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}\right)(d+e x)}}$$

$$\left.\text{EllipticF}\left[i \text{ArcSinh}\left[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right],\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]\right)\Bigg/$$

$$\left(\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}\sqrt{c+\frac{c d^2-b d e+a e^2}{(d+e x)^2}+\frac{-2 c d+b e}{d+e x}}\right)+$$

$$\left(3 i B c^2 d^2 e\sqrt{1-\frac{2\left(c d^2-b d e+a e^2\right)}{\left(2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}\right)(d+e x)}}\right.$$

$$\sqrt{1-\frac{2\left(c d^2-b d e+a e^2\right)}{\left(2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}\right)(d+e x)}}$$

$$\text{EllipticF}\left[\text{i}\,\text{ArcSinh}\left[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right],\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]\Bigg)\Bigg/$$

$$\left(\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}\sqrt{c+\frac{c d^2-b d e+a e^2}{(d+e x)^2}+\frac{-2 c d+b e}{d+e x}}\right)-$$

$$\Bigg(3\,\text{i}\sqrt{2}\,b\,c\,C\,d^2 e\sqrt{1-\frac{2\left(c d^2-b d e+a e^2\right)}{\left(2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}\right)(d+e x)}}$$

$$\sqrt{1-\frac{2\left(c d^2-b d e+a e^2\right)}{\left(2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}\right)(d+e x)}}$$

$$\text{EllipticF}\left[\text{i}\,\text{ArcSinh}\left[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right],\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]\Bigg)\Bigg/$$

$$\left(\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}\sqrt{c+\frac{c d^2-b d e+a e^2}{(d+e x)^2}+\frac{-2 c d+b e}{d+e x}}\right)+$$

$$\Bigg(\text{i}\,b\,B\,c\,d\,e^2\sqrt{1-\frac{2\left(c d^2-b d e+a e^2\right)}{\left(2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}\right)(d+e x)}}$$

$$\sqrt{1-\frac{2\left(c d^2-b d e+a e^2\right)}{\left(2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}\right)(d+e x)}}$$

$$\text{EllipticF}\left[\text{i}\,\text{ArcSinh}\left[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right],\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]\Bigg)\Bigg/$$

$$\left(\sqrt{2}\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}\sqrt{c+\frac{c\,d^2-b\,d\,e+a\,e^2}{(d+e\,x)^2}+\frac{-2\,c\,d+b\,e}{d+e\,x}}\right)-$$

$$\left(4\,i\,\sqrt{2}\,A\,c^2\,d\,e^2\sqrt{1-\frac{2\,(c\,d^2-b\,d\,e+a\,e^2)}{\left(2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}\right)(d+e\,x)}}\right.$$

$$\sqrt{1-\frac{2\,(c\,d^2-b\,d\,e+a\,e^2)}{\left(2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}\right)(d+e\,x)}}$$

$$\left.\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{2}\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\right],\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\right]\right)\Big/$$

$$\left(\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}\sqrt{c+\frac{c\,d^2-b\,d\,e+a\,e^2}{(d+e\,x)^2}+\frac{-2\,c\,d+b\,e}{d+e\,x}}\right)+$$

$$\left(5\,i\,\sqrt{2}\,a\,c\,C\,d\,e^2\sqrt{1-\frac{2\,(c\,d^2-b\,d\,e+a\,e^2)}{\left(2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}\right)(d+e\,x)}}\right.$$

$$\sqrt{1-\frac{2\,(c\,d^2-b\,d\,e+a\,e^2)}{\left(2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}\right)(d+e\,x)}}$$

$$\left.\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{2}\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}}{\sqrt{d+e\,x}}\right],\frac{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}{2\,c\,d-b\,e+\sqrt{b^2\,e^2-4\,a\,c\,e^2}}\right]\right)\Big/$$

$$\left(\sqrt{-\frac{c\,d^2-b\,d\,e+a\,e^2}{2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}}}\sqrt{c+\frac{c\,d^2-b\,d\,e+a\,e^2}{(d+e\,x)^2}+\frac{-2\,c\,d+b\,e}{d+e\,x}}\right)+$$

$$\left(2\,i\,\sqrt{2}\,A\,b\,c\,e^3\sqrt{1-\frac{2\,(c\,d^2-b\,d\,e+a\,e^2)}{\left(2\,c\,d-b\,e-\sqrt{b^2\,e^2-4\,a\,c\,e^2}\right)(d+e\,x)}}\right.$$

$$\sqrt{1-\frac{2\left(c d^2-b d e+a e^2\right)}{\left(2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}\right)(d+e x)}}$$

$$\left.\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right],\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]\right/$$

$$\left(\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}\sqrt{c+\frac{c d^2-b d e+a e^2}{(d+e x)^2}+\frac{-2 c d+b e}{d+e x}}\right)-$$

$$\left(5\,i\,a B c e^3\sqrt{1-\frac{2\left(c d^2-b d e+a e^2\right)}{\left(2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}\right)(d+e x)}}\right.$$

$$\sqrt{1-\frac{2\left(c d^2-b d e+a e^2\right)}{\left(2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}\right)(d+e x)}}$$

$$\left.\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}}{\sqrt{d+e x}}\right],\frac{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}{2 c d-b e+\sqrt{b^2 e^2-4 a c e^2}}\right]\right/$$

$$\left.\left.\left(\sqrt{2}\sqrt{-\frac{c d^2-b d e+a e^2}{2 c d-b e-\sqrt{b^2 e^2-4 a c e^2}}}\sqrt{c+\frac{c d^2-b d e+a e^2}{(d+e x)^2}+\frac{-2 c d+b e}{d+e x}}\right)\right)\right)$$

Problem 272: Unable to integrate problem.

$$\int (g+h x)^m \left(a+b x+c x^2\right)^p \left(d+e x+f x^2\right) dx$$

Optimal (type 6, 510 leaves, 6 steps):

$$\frac{f\,(g+h\,x)^{1+m}\,(a+b\,x+c\,x^2)^{1+p}}{c\,h\,(3+m+2\,p)}+$$

$$\Bigg(\Big(f\,h\,(b\,g-a\,h)\,(1+m)+c\,\big(2\,f\,g^2\,(1+p)-h\,(e\,g-d\,h)\,(3+m+2\,p)\big)\Big)\,(g+h\,x)^{1+m}\,(a+b\,x+c\,x^2)^p$$

$$\left(1-\frac{2\,c\,(g+h\,x)}{2\,c\,g-\left(b-\sqrt{b^2-4\,a\,c}\right)h}\right)^{-p}\left(1-\frac{2\,c\,(g+h\,x)}{2\,c\,g-\left(b+\sqrt{b^2-4\,a\,c}\right)h}\right)^{-p}\text{AppellF1}\Big[1+m,\,-p,\,-p,$$

$$2+m,\,\frac{2\,c\,(g+h\,x)}{2\,c\,g-\left(b-\sqrt{b^2-4\,a\,c}\right)h},\,\frac{2\,c\,(g+h\,x)}{2\,c\,g-\left(b+\sqrt{b^2-4\,a\,c}\right)h}\Big]\Bigg)\Bigg/\left(c\,h^3\,(1+m)\,(3+m+2\,p)\right)-$$

$$\Bigg(\Big(b\,f\,h\,(2+m+p)+c\,\big(2\,f\,g\,(1+p)-e\,h\,(3+m+2\,p)\big)\Big)\,(g+h\,x)^{2+m}\,(a+b\,x+c\,x^2)^p$$

$$\left(1-\frac{2\,c\,(g+h\,x)}{2\,c\,g-\left(b-\sqrt{b^2-4\,a\,c}\right)h}\right)^{-p}\left(1-\frac{2\,c\,(g+h\,x)}{2\,c\,g-\left(b+\sqrt{b^2-4\,a\,c}\right)h}\right)^{-p}\text{AppellF1}\Big[2+m,\,-p,\,-p,$$

$$3+m,\,\frac{2\,c\,(g+h\,x)}{2\,c\,g-\left(b-\sqrt{b^2-4\,a\,c}\right)h},\,\frac{2\,c\,(g+h\,x)}{2\,c\,g-\left(b+\sqrt{b^2-4\,a\,c}\right)h}\Big]\Bigg)\Bigg/\left(c\,h^3\,(2+m)\,(3+m+2\,p)\right)$$

Result (type 8, 32 leaves):

$$\int (g+h\,x)^m\,(a+b\,x+c\,x^2)^p\,(d+e\,x+f\,x^2)\,dx$$

Problem 273: Unable to integrate problem.

$$\int (g+h\,x)^m\,\sqrt{a+b\,x+c\,x^2}\,(d+e\,x+f\,x^2)\,dx$$

Optimal (type 6, 496 leaves, 6 steps):

$$\frac{f (g+h x)^{1+m} \left(a+b x+c x^2\right)^{3/2}}{c h (4+m)}+$$
$$\left(\left(f h (b g-a h) (1+m)+c \left(3 f g^2-h (e g-d h) (4+m)\right)\right) (g+h x)^{1+m} \sqrt{a+b x+c x^2}\right.$$
$$\left.\text{AppellF1}\left[1+m,-\frac{1}{2},-\frac{1}{2},2+m,\frac{2 c (g+h x)}{2 c g-\left(b-\sqrt{b^2-4 a c}\right) h},\frac{2 c (g+h x)}{2 c g-\left(b+\sqrt{b^2-4 a c}\right) h}\right]\right)\Big/$$
$$\left(c h^3 (1+m) (4+m) \sqrt{1-\frac{2 c (g+h x)}{2 c g-\left(b-\sqrt{b^2-4 a c}\right) h}} \sqrt{1-\frac{2 c (g+h x)}{2 c g-\left(b+\sqrt{b^2-4 a c}\right) h}}\right)-$$
$$\left(\left(b f h (5+2 m)+c (6 f g-2 e h (4+m))\right) (g+h x)^{2+m} \sqrt{a+b x+c x^2}\right.$$
$$\left.\text{AppellF1}\left[2+m,-\frac{1}{2},-\frac{1}{2},3+m,\frac{2 c (g+h x)}{2 c g-\left(b-\sqrt{b^2-4 a c}\right) h},\frac{2 c (g+h x)}{2 c g-\left(b+\sqrt{b^2-4 a c}\right) h}\right]\right)\Big/$$
$$\left(2 c h^3 (2+m) (4+m) \sqrt{1-\frac{2 c (g+h x)}{2 c g-\left(b-\sqrt{b^2-4 a c}\right) h}} \sqrt{1-\frac{2 c (g+h x)}{2 c g-\left(b+\sqrt{b^2-4 a c}\right) h}}\right)$$

Result (type 8, 34 leaves):

$$\int (g+h x)^m \sqrt{a+b x+c x^2} \left(d+e x+f x^2\right) dx$$

Problem 274: Unable to integrate problem.

$$\int (g+h x)^{-3-2 p} \left(a+b x+c x^2\right)^p \left(d+e x+f x^2\right) dx$$

Optimal (type 6, 590 leaves, 5 steps):

$$-\frac{\left(f g^2-h\left(e g-d h\right)\right)\left(g+h x\right)^{-2(1+p)}\left(a+b x+c x^2\right)^{1+p}}{2 h\left(c g^2-b g h+a h^2\right)\left(1+p\right)}-\frac{1}{2 h^3 p}$$

$$f\left(g+h x\right)^{-2 p}\left(a+b x+c x^2\right)^p\left(1-\frac{2 c\left(g+h x\right)}{2 c g-\left(b-\sqrt{b^2-4 a c}\right) h}\right)^{-p}\left(1-\frac{2 c\left(g+h x\right)}{2 c g-\left(b+\sqrt{b^2-4 a c}\right) h}\right)^{-p}$$

$$\text{AppellF1}\left[-2 p,-p,-p,1-2 p,\frac{2 c\left(g+h x\right)}{2 c g-\left(b-\sqrt{b^2-4 a c}\right) h},\frac{2 c\left(g+h x\right)}{2 c g-\left(b+\sqrt{b^2-4 a c}\right) h}\right]-$$

$$\left(\left(2 c\left(f g^3-d g h^2\right)+h\left(2 a h\left(2 f g-e h\right)-b\left(3 f g^2-e g h-d h^2\right)\right)\right)\right.$$

$$\left(b-\sqrt{b^2-4 a c}+2 c x\right)\left(\frac{\left(2 c g-\left(b-\sqrt{b^2-4 a c}\right) h\right)\left(b+\sqrt{b^2-4 a c}+2 c x\right)}{\left(2 c g-\left(b+\sqrt{b^2-4 a c}\right) h\right)\left(b-\sqrt{b^2-4 a c}+2 c x\right)}\right)^{-p}$$

$$\left(g+h x\right)^{-1-2 p}\left(a+b x+c x^2\right)^p \text{Hypergeometric2F1}\left[-1-2 p,-p,\right.$$

$$\left.\left.-2 p,-\frac{4 c\sqrt{b^2-4 a c}\left(g+h x\right)}{\left(2 c g-\left(b+\sqrt{b^2-4 a c}\right) h\right)\left(b-\sqrt{b^2-4 a c}+2 c x\right)}\right]\right)\Big/$$

$$\left(2 h^2\left(2 c g-\left(b-\sqrt{b^2-4 a c}\right) h\right)\left(c g^2-b g h+a h^2\right)\left(1+2 p\right)\right)$$

Result (type 8, 36 leaves):

$$\int\left(g+h x\right)^{-3-2 p}\left(a+b x+c x^2\right)^p\left(d+e x+f x^2\right) dx$$

Problem 278: Result more than twice size of optimal antiderivative.

$$\int\left(d+e x\right)^3\left(a+b x+c x^2\right)^5\left(d\left(6 b d+5 a e\right)+\left(12 c d^2+17 b d e+5 a e^2\right) x+e\left(29 c d+11 b e\right) x^2+17 c e^2 x^3\right) dx$$

Optimal (type 1, 20 leaves, 2 steps):

$$\left(d+e x\right)^5\left(a+b x+c x^2\right)^6$$

Result (type 1, 167 leaves):

$$x\left(6 a^5\left(b+c x\right)\left(d+e x\right)^5+15 a^4 x\left(b+c x\right)^2\left(d+e x\right)^5+20 a^3 x^2\left(b+c x\right)^3\left(d+e x\right)^5+15 a^2 x^3\left(b+c x\right)^4\left(d+e x\right)^5+6 a x^4\left(b+c x\right)^5\left(d+e x\right)^5+x^5\left(b+c x\right)^6\left(d+e x\right)^5+a^6 e\left(5 d^4+10 d^3 e x+10 d^2 e^2 x^2+5 d e^3 x^3+e^4 x^4\right)\right)$$

Problem 366: Result unnecessarily involves imaginary or complex numbers.

$$\int\frac{f+g x+h x^2+i x^3+j x^4}{\left(a+b x-c x^2\right)^{5/2}} dx$$

Optimal (type 3, 353 leaves, 5 steps):

$$\left(2\left(a b^2 c i+2 a c^2 (c g+a i)+a b^3 j-b c \left(c^2 f-a c h-3 a^2 j\right)+\left(2 c^4 f+c^3 (b g+2 a h)+b^4 j+b^2 c (b i+4 a j)+c^2 \left(b^2 h+3 a b i+2 a^2 j\right)\right) x\right)\right)\Big/\left(3 c^3 \left(b^2+4 a c\right) \left(a+b x-c x^2\right)^{3/2}\right)-\left(2\left(b^4 c i+24 a^2 c^3 i+2 b^2 c^2 (2 c g+3 a i)+b^5 j+b^3 c (c h+10 a j)+4 b c^2 \left(2 c^2 f-a c h+8 a^2 j\right)-c\left(16 c^4 f+8 c^3 (b g-a h)-4 b^4 j-b^2 c (b i+28 a j)+2 c^2 \left(b^2 h-6 a b i-16 a^2 j\right)\right) x\right)\right)\Big/\left(3 c^3 \left(b^2+4 a c\right)^2 \sqrt{a+b x-c x^2}\right)-\frac{j \operatorname{ArcTan}\left[\frac{b-2 c x}{2 \sqrt{c} \sqrt{a+b x-c x^2}}\right]}{c^{5/2}}$$

Result (type 3, 319 leaves):

$$-\frac{1}{3 c^2 \left(b^2+4 a c\right)^2 (a+x (b-c x))^{3/2}} 2\left(3 b^5 j x^2+b^4 \left(6 a j x-4 c j x^3\right)+b^3 \left(3 a^2 j+18 a c j x^2+c^2 \left(f+3 g x-x^2 (3 h+i x)\right)\right)+8 c^2 \left(2 c^3 f x^3+a^3 (2 i+3 j x)-a c^2 x \left(3 f+h x^2\right)-a^2 c \left(g+x^2 (3 i+4 j x)\right)\right)+4 b c \left(5 a^3 j+2 c^3 x^2 (-3 f+g x)-2 a^2 c (h-3 i x)+3 a c^2 \left(f-x \left(g-h x+i x^2\right)\right)\right)+2 b^2 c \left(21 a^2 j x+c^2 x (3 f+x (-6 g+h x))+a c \left(g+x \left(-6 h+3 i x-14 j x^2\right)\right)\right)\right)+\frac{i\, j \operatorname{Log}\left[\frac{i (b-2 c x)}{\sqrt{c}}+2 \sqrt{a+x (b-c x)}\right]}{c^{5/2}}$$

Problem 367: Result more than twice size of optimal antiderivative.

$$\int (d+e x)^m \left(3+2 x+5 x^2\right)^3 \left(2+x+3 x^2-5 x^3+4 x^4\right) dx$$

Optimal (type 3, 588 leaves, 2 steps):

$$\frac{(5d^2-2de+3e^2)^3\,(4d^4+5d^3e+3d^2e^2-de^3+2e^4)\,(d+ex)^{1+m}}{e^{11}\,(1+m)}-\frac{1}{e^{11}\,(2+m)}$$
$$(5d^2-2de+3e^2)^2\,(200d^5+169d^4e+108d^3e^2-20d^2e^3+86de^4-15e^5)\,(d+ex)^{2+m}+\frac{1}{e^{11}\,(3+m)}$$
$$3\,(5d^2-2de+3e^2)\,(1500d^6+660d^5e+792d^4e^2+58d^3e^3+547d^2e^4-156de^5+53e^6)\,(d+ex)^{3+m}-$$
$$\frac{1}{e^{11}\,(4+m)}$$
$$2\,(30000d^7+1050d^6e+21420d^5e^2+1715d^4e^3+9990d^3e^4-2550d^2e^5+2218de^6-287e^7)$$
$$(d+ex)^{4+m}+\frac{1}{e^{11}\,(5+m)}$$
$$(105000d^6+3150d^5e+53550d^4e^2+3430d^3e^3+14985d^2e^4-2550de^5+1109e^6)\,(d+ex)^{5+m}-$$
$$\frac{1}{e^{11}\,(6+m)}6\,(21000d^5+525d^4e+7140d^3e^2+343d^2e^3+999de^4-85e^5)\,(d+ex)^{6+m}+$$
$$\frac{(105000d^4+2100d^3e+21420d^2e^2+686de^3+999e^4)\,(d+ex)^{7+m}}{e^{11}\,(7+m)}-$$
$$\frac{2\,(30000d^3+450d^2e+3060de^2+49e^3)\,(d+ex)^{8+m}}{e^{11}\,(8+m)}+$$
$$\frac{45\,(500d^2+5de+17e^2)\,(d+ex)^{9+m}}{e^{11}\,(9+m)}-\frac{25\,(200d+e)\,(d+ex)^{10+m}}{e^{11}\,(10+m)}+\frac{500\,(d+ex)^{11+m}}{e^{11}\,(11+m)}$$

Result (type 3, 2576 leaves):

$$(\,(d+ex)^{1+m}\,(1814400000d^{10}-9072000d^9e\,(-11+200x+m\,(-1+200x))+$$
$$1814400d^8e^2\,(5\,(374-11x+200x^2)+3m\,(119-20x+500x^2)+m^2\,(17-5x+500x^2))-$$
$$10080d^7e^3\,(90\,(-539+3740x-110x^2+2000x^3)+30m^2\,(-49+2244x-210x^2+6000x^3)+$$
$$m^3\,(-49+3060x-450x^2+30000x^3)+m\,(-14651+400860x-15750x^2+330000x^3))+$$
$$720d^6e^4\,(180\,(43956-3773x+26180x^2-770x^3+14000x^4)+$$
$$49m^2\,(10989-4606x+76500x^2-3300x^3+75000x^4)+m^4\,(999-686x+21420x^2-$$
$$2100x^3+105000x^4)+2m^3\,(18981-10633x+257040x^2-17850x^3+525000x^4)+$$
$$m\,(3378618-884254x+7968240x^2-266700x^3+5250000x^4))-$$
$$720d^5e^5\,(180\,(26180+43956x-3773x^2+26180x^3-770x^4+14000x^5)+$$
$$m^5\,(85+999x-343x^2+7140x^3-525x^4+21000x^5)+$$
$$3m^4\,(1275+12987x-3773x^2+64260x^3-3675x^4+105000x^5)+$$
$$3m^2\,(202725+1305693x-222607x^2+2134860x^3-76125x^4+1575000x^5)+$$
$$m^3\,(68425+576423x-134113x^2+1763580x^3-76125x^4+1785000x^5)+$$
$$2m\,(1342745+5645349x-611912x^2+4769520x^3-150675x^4+2877000x^5))+$$
$$24d^4e^6\,(1080\,(341572+130900x+219780x^2-18865x^3+130900x^4-3850x^5+70000x^6)+$$
$$m^6\,(1109+2550x+14985x^2-3430x^3+53550x^4-3150x^5+105000x^6)+$$
$$25m^4\,(47687+86700x+392607x^2-67228x^3+760410x^4-31500x^5+735000x^6)+$$
$$3m^5\,(18853+39100x+204795x^2-41160x^3+553350x^4-27300x^5+735000x^6)+15m^3$$
$$(886091+1353200x+5069925x^2-713440x^3+6729450x^4-243600x^5+5145000x^6)+$$
$$12m\,(22642453+18494725x+38116845x^2-3625510x^3+26792850x^4-$$
$$822675x^5+15435000x^6)+2m^2\,(41323558+49404975x+143436420x^2-$$
$$16136435x^3+131840100x^4-4329675x^5+85260000x^6))-$$
$$12d^3e^7\,(m^7\,(287+2218x+2550x^2+9990x^3-1715x^4+21420x^5-1050x^6+30000x^7)+2160$$

$$\left(220\,990 + 341\,572\,x + 130\,900\,x^2 + 219\,780\,x^3 - 18\,865\,x^4 + 130\,900\,x^5 - 3850\,x^6 + 70\,000\,x^7\right) +$$
$$8\,m^6\,\left(2009 + 14\,417\,x + 15\,300\,x^2 + 54\,945\,x^3 - 8575\,x^4 + 96\,390\,x^5 - 4200\,x^6 + 105\,000\,x^7\right) +$$
$$40\,m^4\,\left(124\,558 + 724\,177\,x + 615\,825\,x^2 + 1\,758\,240\,x^3 - 217\,805\,x^4 + 1\,959\,930\,x^5 -\right.$$
$$\left.69\,825\,x^6 + 1\,470\,000\,x^7\right) + 2\,m^5\,\left(190\,855 + 1\,248\,734\,x + 1\,201\,050\,x^2 + 3\,886\,110\,x^3 -\right.$$
$$\left.543\,655\,x^4 + 5\,462\,100\,x^5 - 213\,150\,x^6 + 4\,830\,000\,x^7\right) + 12\,m\,\left(37\,254\,035 + 106\,767\,866\,x +\right.$$
$$\left.48\,770\,450\,x^2 + 89\,420\,490\,x^3 - 8\,099\,945\,x^4 + 58\,298\,100\,x^5 - 1\,760\,850\,x^6 + 32\,670\,000\,x^7\right) +$$
$$8\,m^2\,\left(22\,157\,261 + 88\,589\,138\,x + 52\,444\,575\,x^2 + 109\,835\,055\,x^3 - 10\,787\,350\,x^4 + 81\,995\,760\,x^5 -\right.$$
$$\left.2\,576\,175\,x^6 + 49\,245\,000\,x^7\right) + m^3\,\left(38\,586\,863 + 191\,876\,962\,x + 139\,405\,950\,x^2 +\right.$$
$$\left.\left.343\,346\,310\,x^3 - 37\,539\,635\,x^4 + 307\,355\,580\,x^5 - 10\,194\,450\,x^6 + 203\,070\,000\,x^7\right)\right) +$$
$$6\,d^2\,e^8\,\left(m^8\,\left(159 + 574\,x + 2218\,x^2 + 1700\,x^3 + 4995\,x^4 - 686\,x^5 + 7140\,x^6 - 300\,x^7 + 7500\,x^8\right) + 6\,m^7\right.$$
$$\left(1590 + 5453\,x + 19\,962\,x^2 + 14\,450\,x^3 + 39\,960\,x^4 - 5145\,x^5 + 49\,980\,x^6 - 1950\,x^7 + 45\,000\,x^8\right) +$$
$$4320\,\left(244\,860 + 220\,990\,x + 341\,572\,x^2 + 130\,900\,x^3 + 219\,780\,x^4 - 18\,865\,x^5 +\right.$$
$$\left.130\,900\,x^6 - 3850\,x^7 + 70\,000\,x^8\right) + 6\,m^6\,\left(41\,181 + 132\,594\,x + 454\,690\,x^2 +\right.$$
$$\left.307\,700\,x^3 + 794\,205\,x^4 - 95\,354\,x^5 + 863\,940\,x^6 - 31\,500\,x^7 + 682\,500\,x^8\right) +$$
$$12\,m^5\,\left(300\,510 + 894\,005\,x + 2\,830\,168\,x^2 + 1\,768\,850\,x^3 + 4\,225\,770\,x^4 - 471\,625\,x^5 +\right.$$
$$\left.3\,998\,400\,x^6 - 137\,550\,x^7 + 2\,835\,000\,x^8\right) + 24\,m\,\left(52\,296\,690 + 77\,032\,235\,x + 137\,509\,346\,x^2 +\right.$$
$$\left.56\,624\,450\,x^3 + 99\,310\,590\,x^4 - 8\,779\,085\,x^5 + 62\,225\,100\,x^6 - 1\,859\,850\,x^7 + 34\,245\,000\,x^8\right) +$$
$$3\,m^4\,\left(10\,806\,117 + 29\,046\,122\,x + 83\,270\,374\,x^2 + 47\,401\,100\,x^3 + 104\,110\,785\,x^4 -\right.$$
$$\left.10\,813\,418\,x^5 + 86\,415\,420\,x^6 - 2\,832\,900\,x^7 + 56\,122\,500\,x^8\right) +$$
$$6\,m^3\,\left(30\,618\,630 + 71\,948\,317\,x + 182\,077\,838\,x^2 + 93\,086\,050\,x^3 + 187\,672\,140\,x^4 -\right.$$
$$\left.18\,266\,465\,x^5 + 138\,894\,420\,x^6 - 4\,379\,550\,x^7 + 84\,105\,000\,x^8\right) +$$
$$4\,m^2\,\left(160\,119\,201 + 312\,153\,254\,x + 674\,660\,150\,x^2 + 307\,319\,200\,x^3 + 573\,470\,955\,x^4 -\right.$$
$$\left.\left.52\,869\,334\,x^5 + 386\,281\,140\,x^6 - 11\,814\,000\,x^7 + 221\,482\,500\,x^8\right)\right) -$$
$$d\,e^9\,\left(m^9\,\left(3 + 2\,x + 5\,x^2\right)^2\,\left(15 + 86\,x + 20\,x^2 + 108\,x^3 - 169\,x^4 + 200\,x^5\right) +\right.$$
$$25\,920\,\left(103\,950 + 244\,860\,x + 220\,990\,x^2 + 341\,572\,x^3 + 130\,900\,x^4 +\right.$$
$$\left.219\,780\,x^5 - 18\,865\,x^6 + 130\,900\,x^7 - 3850\,x^8 + 70\,000\,x^9\right) +$$
$$3\,m^8\,\left(2835 + 19\,398\,x + 33\,866\,x^2 + 84\,284\,x^3 + 46\,750\,x^4 + 105\,894\,x^5 - 11\,662\,x^6 +\right.$$
$$\left.99\,960\,x^7 - 3525\,x^8 + 75\,000\,x^9\right) + 6\,m^7\,\left(39\,015 + 256\,626\,x + 430\,500\,x^2 + 1\,029\,152\,x^3 +\right.$$
$$\left.548\,250\,x^4 + 1\,192\,806\,x^5 - 126\,224\,x^6 + 1\,040\,400\,x^7 - 35\,325\,x^8 + 725\,000\,x^9\right) +$$
$$6\,m^6\,\left(615\,195 + 3\,853\,206\,x + 6\,159\,594\,x^2 + 14\,048\,812\,x^3 + 7\,152\,750\,x^4 +\right.$$
$$\left.14\,907\,078\,x^5 - 1\,515\,374\,x^6 + 12\,038\,040\,x^7 - 395\,325\,x^8 + 7\,875\,000\,x^9\right) +$$
$$144\,m\,\left(28\,438\,425 + 96\,371\,490\,x + 96\,921\,335\,x^2 + 158\,003\,666\,x^3 + 62\,514\,950\,x^4 +\right.$$
$$\left.107\,222\,670\,x^5 - 9\,345\,035\,x^6 + 65\,591\,100\,x^7 - 1\,946\,475\,x^8 + 35\,645\,000\,x^9\right) +$$
$$3\,m^5\,\left(12\,236\,805 + 72\,048\,942\,x + 108\,594\,486\,x^2 + 234\,464\,780\,x^3 + 113\,554\,050\,x^4 +\right.$$
$$\left.226\,351\,422\,x^5 - 22\,132\,418\,x^6 + 170\,031\,960\,x^7 - 5\,425\,875\,x^8 + 105\,455\,000\,x^9\right) +$$
$$3\,m^4\,\left(79\,518\,915 + 432\,260\,262\,x + 605\,966\,634\,x^2 + 1\,227\,933\,596\,x^3 + 563\,664\,750\,x^4 +\right.$$
$$\left.1\,075\,077\,846\,x^5 - 101\,413\,438\,x^6 + 756\,597\,240\,x^7 - 23\,566\,725\,x^8 + 448\,875\,000\,x^9\right) +$$
$$12\,m^2\,\left(224\,755\,965 + 947\,798\,682\,x + 1\,086\,499\,918\,x^2 + 1\,899\,357\,684\,x^3 + 784\,511\,750\,x^4 +\right.$$
$$\left.1\,385\,287\,326\,x^5 - 123\,296\,838\,x^6 + 879\,233\,880\,x^7 - 26\,417\,775\,x^8 + 488\,625\,000\,x^9\right) +$$
$$4\,m^3\,\left(252\,936\,540 + 1\,236\,282\,876\,x + 1\,583\,994\,615\,x^2 + 2\,988\,020\,842\,x^3 + 1\,298\,753\,250\,x^4 +\right.$$
$$\left.\left.2\,377\,214\,406\,x^5 - 217\,267\,519\,x^6 + 1\,581\,147\,900\,x^7 - 48\,276\,450\,x^8 + 904\,600\,000\,x^9\right)\right) +$$
$$e^{10}\,\left(m^{10}\,\left(3 + 2\,x + 5\,x^2\right)^3\,\left(2 + x + 3\,x^2 - 5\,x^3 + 4\,x^4\right) + m^9\,\left(3 + 2\,x + 5\,x^2\right)^2\right.$$
$$\left(390 + 440\,x + 1279\,x^2 - 280\,x^3 + 997\,x^4 - 936\,x^5 + 1100\,x^6\right) +$$
$$25\,920\,\left(83\,160 + 103\,950\,x + 244\,860\,x^2 + 220\,990\,x^3 + 341\,572\,x^4 + 130\,900\,x^5 +\right.$$
$$\left.219\,780\,x^6 - 18\,865\,x^7 + 130\,900\,x^8 - 3850\,x^9 + 70\,000\,x^{10}\right) +$$
$$3\,m^8\,\left(33\,480 + 80\,865\,x + 276\,024\,x^2 + 320\,866\,x^3 + 598\,860\,x^4 + 266\,050\,x^5 +\right.$$

$$503\,496\,x^6-47\,726\,x^7+360\,060\,x^8-11\,375\,x^9+220\,000\,x^{10}\Big)+$$
$$6\,m^7\left(277\,290+654\,210\,x+2\,183\,229\,x^2+2\,483\,698\,x^3+4\,541\,355\,x^4+1\,978\,800\,x^5+3\,677\,319\,x^6-342\,706\,x^7+2\,545\,155\,x^8-79\,250\,x^9+1\,512\,500\,x^{10}\right)+$$
$$3\,m^6\left(5\,879\,034+13\,467\,195\,x+43\,730\,883\,x^2+48\,517\,350\,x^3+86\,713\,819\,x^4+37\,016\,310\,x^5+67\,539\,393\,x^6-6\,192\,522\,x^7+45\,330\,075\,x^8-1\,393\,525\,x^9+26\,295\,500\,x^{10}\right)+$$
$$144\,m\left(30\,235\,140+47\,149\,425\,x+118\,408\,890\,x^2+110\,180\,735\,x^3+173\,374\,406\,x^4+67\,227\,350\,x^5+113\,816\,070\,x^6-9\,830\,135\,x^7+68\,536\,350\,x^8-2\,023\,475\,x^9+36\,905\,000\,x^{10}\right)+$$
$$3\,m^5\left(41\,597\,010+91\,755\,720\,x+288\,179\,073\,x^2+310\,583\,364\,x^3+541\,448\,179\,x^4+226\,287\,000\,x^5+405\,531\,063\,x^6-36\,620\,052\,x^7+264\,606\,615\,x^8-8\,044\,400\,x^9+150\,342\,500\,x^{10}\right)+$$
$$12\,m^2\left(316\,309\,212+566\,017\,065\,x+1\,526\,027\,622\,x^2+1\,474\,185\,258\,x^3+2\,373\,368\,682\,x^4+934\,547\,630\,x^5+1\,599\,732\,666\,x^6-139\,316\,898\,x^7+977\,620\,530\,x^8-29\,013\,075\,x^9+531\,399\,000\,x^{10}\right)+4\,m^3\left(472\,056\,390+927\,204\,435\,x+2\,657\,980\,899\,x^2+2\,670\,494\,533\,x^3+4\,412\,539\,105\,x^4+1\,769\,460\,300\,x^5+3\,069\,858\,069\,x^6-270\,109\,021\,x^7+1\,910\,860\,605\,x^8-57\,082\,375\,x^9+1\,051\,187\,500\,x^{10}\right)+$$
$$m^4\left(595\,543\,860+1\,250\,302\,905\,x+3\,769\,346\,538\,x^2+3\,929\,892\,722\,x^3+6\,671\,821\,630\,x^4+2\,729\,996\,850\,x^5+4\,810\,043\,142\,x^6-428\,393\,182\,x^7+3\,060\,365\,670\,x^8-92\,156\,375\,x^9+1\,708\,465\,000\,x^{10}\right)\Big)\Big)\Big)\Big/$$
$$\left(e^{11}\,(1+m)\,(2+m)\,(3+m)\,(4+m)\,(5+m)\,(6+m)\,(7+m)\,(8+m)\,(9+m)\,(10+m)\,(11+m)\right)$$

Problem 368: Result more than twice size of optimal antiderivative.

$$\int (d+e\,x)^m\,\left(3+2\,x+5\,x^2\right)^2\,\left(2+x+3\,x^2-5\,x^3+4\,x^4\right)\,dx$$

Optimal (type 3, 432 leaves, 2 steps):

$$\frac{\left(5\,d^2-2\,d\,e+3\,e^2\right)^2\,\left(4\,d^4+5\,d^3\,e+3\,d^2\,e^2-d\,e^3+2\,e^4\right)\,(d+e\,x)^{1+m}}{e^9\,(1+m)}-\frac{1}{e^9\,(2+m)}\left(5\,d^2-2\,d\,e+3\,e^2\right)\,\left(160\,d^5+127\,d^4\,e+88\,d^3\,e^2-4\,d^2\,e^3+64\,d\,e^4-11\,e^5\right)\,(d+e\,x)^{2+m}+\frac{1}{e^9\,(3+m)}\left(2800\,d^6+945\,d^5\,e+1665\,d^4\,e^2+370\,d^3\,e^3+888\,d^2\,e^4-195\,d\,e^5+107\,e^6\right)\,(d+e\,x)^{3+m}-\frac{1}{e^9\,(4+m)}\left(5600\,d^5+1575\,d^4\,e+2220\,d^3\,e^2+370\,d^2\,e^3+592\,d\,e^4-65\,e^5\right)\,(d+e\,x)^{4+m}+\frac{\left(7000\,d^4+1575\,d^3\,e+1665\,d^2\,e^2+185\,d\,e^3+148\,e^4\right)\,(d+e\,x)^{5+m}}{e^9\,(5+m)}-\frac{\left(5600\,d^3+945\,d^2\,e+666\,d\,e^2+37\,e^3\right)\,(d+e\,x)^{6+m}}{e^9\,(6+m)}+\frac{\left(2800\,d^2+315\,d\,e+111\,e^2\right)\,(d+e\,x)^{7+m}}{e^9\,(7+m)}-\frac{5\,(160\,d+9\,e)\,(d+e\,x)^{8+m}}{e^9\,(8+m)}+\frac{100\,(d+e\,x)^{9+m}}{e^9\,(9+m)}$$

Result (type 3, 1476 leaves) :

$$
\begin{aligned}
&\frac{1}{e^9 (1+m) (2+m) (3+m) (4+m) (5+m) (6+m) (7+m) (8+m) (9+m)} \\
&(d+e x)^{1+m} \Big(4032000 d^8 - 25200 d^7 e (-81+160 x+m (-9+160 x)) + \\
&\quad 720 d^6 e^2 \left(7992-2835 x+5600 x^2+3 m \left(629-1050 x+2800 x^2\right)+m^2 \left(111-315 x+2800 x^2\right)\right) - \\
&\quad 120 d^5 e^3 \left(12 m^2 \left(-74+999 x-945 x^2+2800 x^3\right)+6 \left(-3108+7992 x-2835 x^2+5600 x^3\right)+\right. \\
&\qquad \left. m^3 \left(-37+666 x-945 x^2+5600 x^3\right)+m \left(-7067+59274 x-27405 x^2+61600 x^3\right)\right) + \\
&\quad 24 d^4 e^4 \left(m^4 \left(148-185 x+1665 x^2-1575 x^3+7000 x^4\right)+25 m \left(9768-5143 x+16650 x^2-6615 x^3+\right.\right. \\
&\qquad\quad \left.14000 x^4\right)+5 m^3 \left(888-925 x+6660 x^2-4725 x^3+14000 x^4\right)+6 \left(74592-15540 x+\right. \\
&\qquad\quad \left.\left.39960 x^2-14175 x^3+28000 x^4\right)+5 m^2 \left(9916-7955 x+41625 x^2-20475 x^3+49000 x^4\right)\right) - \\
&\quad 6 d^3 e^5 \left(m^5 \left(65+592 x-370 x^2+2220 x^3-1575 x^4+5600 x^5\right)+\right. \\
&\qquad 24 \left(40950+74592 x-15540 x^2+39960 x^3-14175 x^4+28000 x^5\right)+ \\
&\qquad m^4 \left(2275+18352 x-9990 x^2+51060 x^3-29925 x^4+84000 x^5\right)+ \\
&\qquad 5 m^3 \left(6305+43216 x-19610 x^2+82140 x^3-39375 x^4+95200 x^5\right)+ \\
&\qquad 5 m^2 \left(43225+235024 x-83250 x^2+277500 x^3-114975 x^4+252000 x^5\right)+ \\
&\qquad \left. 2 m \left(366405+1383504 x-350390 x^2+992340 x^3-373275 x^4+767200 x^5\right)\right) + \\
&\quad 2 d^2 e^6 \left(m^6 \left(107+195 x+888 x^2-370 x^3+1665 x^4-945 x^5+2800 x^6\right)+\right. \\
&\qquad 3 m^5 \left(1391+2340 x+9768 x^2-3700 x^3+14985 x^4-7560 x^5+19600 x^6\right)+ \\
&\qquad 72 \left(89880+40950 x+74592 x^2-15540 x^3+39960 x^4-14175 x^5+28000 x^6\right)+ \\
&\qquad 15 m^3 \left(37557+49530 x+160728 x^2-47360 x^3+151515 x^4-62370 x^5+137200 x^6\right)+ \\
&\qquad m^4 \left(66875+101400 x+379176 x^2-128020 x^3+461205 x^4-207900 x^5+490000 x^6\right)+ \\
&\qquad 6 m \left(1073852+857805 x+1831056 x^2-412550 x^3+1112220 x^4-407295 x^5+823200 x^6\right)+ \\
&\qquad m^2 \left(2629418+2846805 x+7675872 x^2-1949530 x^3+\right. \\
&\qquad\quad \left.\left.5651010 x^4-2172555 x^5+4547200 x^6\right)\right) - \\
&\quad d e^7 \left(m^7 \left(33+214 x+195 x^2+592 x^3-185 x^4+666 x^5-315 x^6+800 x^7\right)+\right. \\
&\qquad 2 m^6 \left(693+4280 x+3705 x^2+10656 x^3-3145 x^4+10656 x^5-4725 x^6+11200 x^7\right)+ \\
&\qquad 144 \left(41580+89880 x+40950 x^2+74592 x^3-15540 x^4+39960 x^5-14175 x^6+28000 x^7\right)+ \\
&\qquad 2 m^5 \left(12243+71048 x+57720 x^2+155696 x^3-43105 x^4+137196 x^5-57330 x^6+128800 x^7\right)+ \\
&\qquad 2 m^4 \left(117810+630230 x+472875 x^2+1182816 x^3-305620 x^4+915750 x^5-\right. \\
&\qquad\quad \left.363825 x^6+784000 x^7\right)+12 m \left(663102+2152412 x+1103505 x^2+2129424 x^3-\right. \\
&\qquad\quad \left.459170 x^4+1208124 x^5-435645 x^6+871200 x^7\right)+2 m^2 \left(2209977+9072530 x+\right. \\
&\qquad\quad \left.5420220 x^2+11337984 x^3-2568355 x^4+6985674 x^5-2579850 x^6+5252800 x^7\right)+ \\
&\qquad m^3 \left(1332177+6385546 x+4332705 x^2+9939088 x^3-2395565 x^4+6805854 x^5-\right. \\
&\qquad\quad \left.\left.2595285 x^6+5415200 x^7\right)\right)+e^8 \left(m^8 \left(3+2 x+5 x^2\right)^2 \left(2+x+3 x^2-5 x^3+4 x^4\right)+\right. \\
&\qquad m^7 \left(792+1419 x+4494 x^2+2665 x^3+5920 x^4-1443 x^5+4218 x^6-1665 x^7+3600 x^8\right)+ \\
&\qquad 2 m^6 \left(7434+12936 x+39804 x^2+22945 x^3+49580 x^4-11766 x^5+33522 x^6-\right. \\
&\qquad\quad \left.12915 x^7+27300 x^8\right)+144 \left(45360+41580 x+89880 x^2+40950 x^3+74592 x^4-\right. \\
&\qquad\quad \left.15540 x^5+39960 x^6-14175 x^7+28000 x^8\right)+2 m^5 \left(77616+130053 x+386163 x^2+\right. \\
&\qquad\quad \left.215345 x^3+451400 x^4-104229 x^5+289821 x^6-109305 x^7+226800 x^8\right)+ \\
&\qquad 12 m \left(995544+1162062 x+2691692 x^2+1267305 x^3+2353200 x^4-496466 x^5+\right. \\
&\qquad\quad \left.1288044 x^6-459945 x^7+913200 x^8\right)+m^4 \left(983682+1567797 x+4453233 x^2+\right. \\
&\qquad\quad \left.2389985 x^3+4850404 x^4-1090353 x^5+2965809 x^6-1098405 x^7+2244900 x^8\right)+ \\
&\qquad 2 m^2 \left(4581036+6188589 x+15529766 x^2+7627230 x^3+14532120 x^4-3119359 x^5+\right. \\
&\qquad\quad \left.8193798 x^6-2953260 x^7+5906200 x^8\right)+m^3 \left(3864168+5752131 x+15458076 x^2+\right. \\
&\qquad\quad \left.\left.7946185 x^3+15608080 x^4-3422907 x^5+9134412 x^6-3332385 x^7+6728400 x^8\right)\right)\Big)
\end{aligned}
$$

Problem 369: Result more than twice size of optimal antiderivative.

$$\int (d+e\,x)^m\,\left(3+2\,x+5\,x^2\right)\,\left(2+x+3\,x^2-5\,x^3+4\,x^4\right)\,dx$$

Optimal (type 3, 292 leaves, 2 steps):

$$\frac{\left(5\,d^2-2\,d\,e+3\,e^2\right)\,\left(4\,d^4+5\,d^3\,e+3\,d^2\,e^2-d\,e^3+2\,e^4\right)\,(d+e\,x)^{1+m}}{e^7\,(1+m)}-\frac{\left(120\,d^5+85\,d^4\,e+68\,d^3\,e^2+12\,d^2\,e^3+42\,d\,e^4-7\,e^5\right)\,(d+e\,x)^{2+m}}{e^7\,(2+m)}+\frac{\left(300\,d^4+170\,d^3\,e+102\,d^2\,e^2+12\,d\,e^3+21\,e^4\right)\,(d+e\,x)^{3+m}}{e^7\,(3+m)}-\frac{2\,\left(200\,d^3+85\,d^2\,e+34\,d\,e^2+2\,e^3\right)\,(d+e\,x)^{4+m}}{e^7\,(4+m)}+\frac{\left(300\,d^2+85\,d\,e+17\,e^2\right)\,(d+e\,x)^{5+m}}{e^7\,(5+m)}-\frac{(120\,d+17\,e)\,(d+e\,x)^{6+m}}{e^7\,(6+m)}+\frac{20\,(d+e\,x)^{7+m}}{e^7\,(7+m)}$$

Result (type 3, 743 leaves):

$$\frac{1}{e^7\,(1+m)\,(2+m)\,(3+m)\,(4+m)\,(5+m)\,(6+m)\,(7+m)}(d+e\,x)^{1+m}\,\Big(14\,400\,d^6-120\,d^5\,e\,\left(-119+120\,x+m\,(-17+120\,x)\right)+24\,d^4\,e^2\,\left(714-595\,x+600\,x^2+m^2\,\left(17-85\,x+300\,x^2\right)+m\,\left(221-680\,x+900\,x^2\right)\right)-12\,d^3\,e^3\,\Big(m^3\,\left(-2+34\,x-85\,x^2+200\,x^3\right)+2\,\left(-210+714\,x-595\,x^2+600\,x^3\right)+2\,m^2\,\left(-18+238\,x-425\,x^2+600\,x^3\right)+m\,\left(-214+1870\,x-1955\,x^2+2200\,x^3\right)\Big)+2\,d^2\,e^4\,\Big(m^4\,\left(21-12\,x+102\,x^2-170\,x^3+300\,x^4\right)+12\,\left(1470-210\,x+714\,x^2-595\,x^3+600\,x^4\right)+2\,m^3\,\left(231-114\,x+816\,x^2-1105\,x^3+1500\,x^4\right)+2\,m\,\left(6699-1902\,x+7752\,x^2-7055\,x^3+7500\,x^4\right)+m^2\,\left(3759-1500\,x+8466\,x^2-9010\,x^3+10\,500\,x^4\right)\Big)-d\,e^5\,\Big(m^5\,\left(7+42\,x-12\,x^2+68\,x^3-85\,x^4+120\,x^5\right)+24\,\left(735+1470\,x-210\,x^2+714\,x^3-595\,x^4+600\,x^5\right)+m^4\,\left(175+966\,x-252\,x^2+1292\,x^3-1445\,x^4+1800\,x^5\right)+m^3\,\left(1715+8442\,x-1956\,x^2+8908\,x^3-8925\,x^4+10\,200\,x^5\right)+2\,m\,\left(9639+31\,038\,x-5064\,x^2+18\,360\,x^3-15\,895\,x^4+16\,440\,x^5\right)+m^2\,\left(8225+34\,314\,x-6804\,x^2+27\,268\,x^3-25\,075\,x^4+27\,000\,x^5\right)\Big)+e^6\,\Big(m^6\,\left(6+7\,x+21\,x^2-4\,x^3+17\,x^4-17\,x^5+20\,x^6\right)+m^5\,\left(162+182\,x+525\,x^2-96\,x^3+391\,x^4-374\,x^5+420\,x^6\right)+24\,\left(1260+735\,x+1470\,x^2-210\,x^3+714\,x^4-595\,x^5+600\,x^6\right)+m^4\,\left(1770+1890\,x+5187\,x^2-904\,x^3+3519\,x^4-3230\,x^5+3500\,x^6\right)+m^3\,\left(9990+9940\,x+25\,599\,x^2-4224\,x^3+15\,725\,x^4-13\,940\,x^5+14\,700\,x^6\right)+2\,m\,\left(24\,084+18\,459\,x+39\,858\,x^2-5904\,x^3+20\,502\,x^4-17\,323\,x^5+17\,640\,x^6\right)+m^2\,\left(30\,624+27\,503\,x+65\,352\,x^2-10\,180\,x^3+36\,448\,x^4-31\,433\,x^5+32\,480\,x^6\right)\Big)\Big)$$

Problem 370: Result more than twice size of optimal antiderivative.

$$\int \frac{(d+e\,x)^m\,\left(2+x+3\,x^2-5\,x^3+4\,x^4\right)}{3+2\,x+5\,x^2}\,dx$$

Optimal (type 5, 255 leaves, 4 steps):

$$\frac{\left(100 d^2+165 d e+81 e^2\right) (d+e x)^{1+m}}{125 e^3 (1+m)}-\frac{(40 d+33 e) (d+e x)^{2+m}}{25 e^3 (2+m)}+\frac{4 (d+e x)^{3+m}}{5 e^3 (3+m)}-\left(\left(6412 i-423 \sqrt{14}\right) (d+e x)^{1+m} \text{Hypergeometric2F1}\left[1,1+m,2+m,\frac{5 (d+e x)}{5 d-e+i \sqrt{14} e}\right]\right)\Big/\left(3500 \left(5 i d-\left(i+\sqrt{14}\right) e\right) (1+m)\right)-\left(\left(6412 i+423 \sqrt{14}\right) (d+e x)^{1+m} \text{Hypergeometric2F1}\left[1,1+m,2+m,\frac{5 (d+e x)}{5 d-\left(1+i \sqrt{14}\right) e}\right]\right)\Big/\left(3500 \left(5 i d-\left(i-\sqrt{14}\right) e\right) (1+m)\right)$$

Result (type 5, 621 leaves):

$$\frac{1}{17500 e^3 m (1+m) (2+m) (3+m)}(d+e x)^m \Bigg(28000 d^3 m+23100 d^2 e m (3+m)+11340 d e^2 m (2+m) (3+m)-28000 d^2 e m^2 x-23100 d e^2 m^2 (3+m) x+11340 e^3 m (2+m) (3+m) x+14000 d e^2 m^2 x^2+14000 d e^2 m^3 x^2-23100 e^3 m (3+m) x^2-23100 e^3 m^2 (3+m) x^2+28000 e^3 m x^3+42000 e^3 m^2 x^3+14000 e^3 m^3 x^3-28000 d^3 m \left(1+\frac{e x}{d}\right)^{-m}-23100 d^2 e m (3+m) \left(1+\frac{e x}{d}\right)^{-m}+6412\times 5^{-m} e^3 (1+m) (2+m) (3+m) \left(\frac{d+e x}{e \left(1+i \sqrt{14}+5 x\right)}\right)^{-m} \text{Hypergeometric2F1}\left[-m,-m,1-m,\frac{5 i d+\left(-i+\sqrt{14}\right) e}{e \left(-i+\sqrt{14}-5 i x\right)}\right]-423 i 5^{-m} \sqrt{14} e^3 (1+m) (2+m) (3+m) \left(\frac{d+e x}{e \left(1+i \sqrt{14}+5 x\right)}\right)^{-m} \text{Hypergeometric2F1}\left[-m,-m,1-m,\frac{5 i d+\left(-i+\sqrt{14}\right) e}{e \left(-i+\sqrt{14}-5 i x\right)}\right]+6412\times 5^{-m} e^3 (1+m) (2+m) (3+m) \left(\frac{d+e x}{e \left(1-i \sqrt{14}+5 x\right)}\right)^{-m} \text{Hypergeometric2F1}\left[-m,-m,1-m,\frac{-5 i d+\left(i+\sqrt{14}\right) e}{e \left(i+\sqrt{14}+5 i x\right)}\right]+423 i 5^{-m} \sqrt{14} e^3 (1+m) (2+m) (3+m) \left(\frac{d+e x}{e \left(1-i \sqrt{14}+5 x\right)}\right)^{-m} \text{Hypergeometric2F1}\left[-m,-m,1-m,\frac{-5 i d+\left(i+\sqrt{14}\right) e}{e \left(i+\sqrt{14}+5 i x\right)}\right]\Bigg)$$

Problem 371: Unable to integrate problem.

$$\int \frac{(d+e\,x)^m\,\left(2+x+3\,x^2-5\,x^3+4\,x^4\right)}{\left(3+2\,x+5\,x^2\right)^2}\,dx$$

Optimal (type 5, 377 leaves, 5 steps):

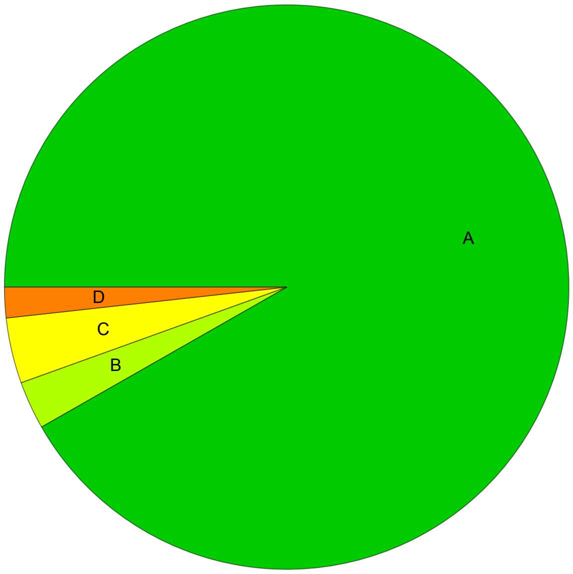
$$\frac{4\,(d+e\,x)^{1+m}}{25\,e\,(1+m)}-\frac{\left(1367\,d-293\,e+(423\,d-1367\,e)\,x\right)\,(d+e\,x)^{1+m}}{700\,\left(5\,d^2-2\,d\,e+3\,e^2\right)\,\left(3+2\,x+5\,x^2\right)}+$$
$$\left(\left(80360\,d^2-32144\,d\,e+48216\,e^2+i\,\sqrt{14}\,\left(6565\,d^2-2\,d\,e\,(1313-3206\,m)+e^2\,(3939-98\,m)\right)-5922\,d\,e\,m+19138\,e^2\,m\right)\,(d+e\,x)^{1+m}\,\text{Hypergeometric2F1}\left[1,1+m,2+m,\frac{5\,(d+e\,x)}{5\,d-e+i\,\sqrt{14}\,e}\right]\right)\Big/$$
$$\left(19600\,\left(5\,d+i\,\left(i+\sqrt{14}\right)\,e\right)\,\left(5\,d^2-2\,d\,e+3\,e^2\right)\,(1+m)\right)+$$
$$\left(\left(80360\,d^2-32144\,d\,e+48216\,e^2-i\,\sqrt{14}\,\left(6565\,d^2-2\,d\,e\,(1313-3206\,m)+e^2\,(3939-98\,m)\right)-5922\,d\,e\,m+19138\,e^2\,m\right)\,(d+e\,x)^{1+m}\,\text{Hypergeometric2F1}\left[1,1+m,2+m,\frac{5\,(d+e\,x)}{5\,d-\left(1+i\,\sqrt{14}\right)\,e}\right]\right)\Big/$$
$$\left(19600\,\left(5\,d-\left(1+i\,\sqrt{14}\right)\,e\right)\,\left(5\,d^2-2\,d\,e+3\,e^2\right)\,(1+m)\right)$$

Result (type 8, 40 leaves):

$$\int \frac{(d+e\,x)^m\,\left(2+x+3\,x^2-5\,x^3+4\,x^4\right)}{\left(3+2\,x+5\,x^2\right)^2}\,dx$$

Summary of Integration Test Results

400 integration problems



A - 367 optimal antiderivatives

B - 11 more than twice size of optimal antiderivatives

C - 15 unnecessarily complex antiderivatives

D - 7 unable to integrate problems

E - 0 integration timeouts