Mathematica 11.3 Integration Test Results

Test results for the 108 problems in "3.2.3 u log(e (f (a+b x)^p (c+d x)^q)^r)^s.m"

Problem 16: Result more than twice size of optimal antiderivative.

$$\int (a+b\,x)^4 \,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]^2 \,dx$$

Optimal (type 4, 920 leaves, 32 steps):

$$-\frac{a\,(b\,c-a\,d)^3\,p\,q\,r^2\,x}{5\,d^3}+\frac{2\,(b\,c-a\,d)^4\,p\,q\,r^2\,x}{25\,d^4}+\frac{77\,(b\,c-a\,d)^4\,q^2\,r^2\,x}{150\,d^4}+$$
$$\frac{2\,(b\,c-a\,d)^4\,q\,(p+q)\,r^2\,x}{5\,d^4}-\frac{b\,(b\,c-a\,d)^3\,p\,q\,r^2\,x^2}{10\,d^3}-\frac{(b\,c-a\,d)^3\,p\,q\,r^2\,(a+b\,x)^2}{25\,b\,d^3}-$$
$$\frac{77\,(b\,c-a\,d)^3\,q^2\,r^2\,(a+b\,x)^2}{300\,b\,d^3}+\frac{16\,(b\,c-a\,d)^2\,p\,q\,r^2\,(a+b\,x)^3}{225\,b\,d^2}+\frac{47\,(b\,c-a\,d)^2\,q^2\,r^2\,(a+b\,x)^3}{450\,b\,d^2}-$$
$$\frac{9\,(b\,c-a\,d)\,p\,q\,r^2\,(a+b\,x)^4}{200\,b\,d}-\frac{9\,(b\,c-a\,d)\,q^2\,r^2\,(a+b\,x)^4}{200\,b\,d}+\frac{2\,p^2\,r^2\,(a+b\,x)^5}{125\,b}+$$
$$\frac{4\,p\,q\,r^2\,(a+b\,x)^5}{125\,b}+\frac{2\,q^2\,r^2\,(a+b\,x)^5}{125\,b}-\frac{2\,(b\,c-a\,d)^5\,p\,q\,r^2\,\text{Log}[c+d\,x]}{25\,b\,d^5}-$$
$$\frac{137\,(b\,c-a\,d)^5\,q^2\,r^2\,\text{Log}[c+d\,x]}{150\,b\,d^5}-\frac{2\,(b\,c-a\,d)^5\,p\,q\,r^2\,\text{Log}\left[-\frac{d\,(a+b\,x)}{b\,c-a\,d}\right]\text{Log}[c+d\,x]}{5\,b\,d^5}-$$
$$\frac{(b\,c-a\,d)^5\,q^2\,r^2\,\text{Log}[c+d\,x]^2}{5\,b\,d^5}-\frac{2\,(b\,c-a\,d)^4\,q\,r\,(a+b\,x)\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]}{5\,b\,d^4}+$$
$$\frac{(b\,c-a\,d)^3\,q\,r\,(a+b\,x)^2\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]}{5\,b\,d^3}-$$
$$\frac{2\,(b\,c-a\,d)^2\,q\,r\,(a+b\,x)^3\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]}{15\,b\,d^2}+$$
$$\frac{(b\,c-a\,d)\,q\,r\,(a+b\,x)^4\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]}{10\,b\,d}-$$
$$\frac{2\,p\,r\,(a+b\,x)^5\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]}{25\,b}-\frac{2\,q\,r\,(a+b\,x)^5\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]}{25\,b}+$$
$$\frac{2\,(b\,c-a\,d)^5\,q\,r\,\text{Log}[c+d\,x]\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]}{5\,b\,d^5}+$$
$$\frac{(a+b\,x)^5\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]^2}{5\,b}-\frac{2\,(b\,c-a\,d)^5\,p\,q\,r^2\,\text{PolyLog}\left[2,\,\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]}{5\,b\,d^5}$$

Result (type 4, 2508 leaves) :

$$\frac{2\,a^5\,p\,q\,r^2}{b}+\frac{2\,a\,b^3\,c^4\,p\,q\,r^2}{5\,d^4}-\frac{2\,a^2\,b^2\,c^3\,p\,q\,r^2}{d^3}+\frac{4\,a^3\,b\,c^2\,p\,q\,r^2}{d^2}-\frac{4\,a^4\,c\,p\,q\,r^2}{d}+$$
$$\frac{2}{25}\,a^4\,p^2\,r^2\,x+\frac{197}{150}\,a^4\,p\,q\,r^2\,x+\frac{12\,b^4\,c^4\,p\,q\,r^2\,x}{25\,d^4}-\frac{11\,a\,b^3\,c^3\,p\,q\,r^2\,x}{5\,d^3}+\frac{59\,a^2\,b^2\,c^2\,p\,q\,r^2\,x}{15\,d^2}-$$
$$\frac{101\,a^3\,b\,c\,p\,q\,r^2\,x}{30\,d}+2\,a^4\,q^2\,r^2\,x+\frac{137\,b^4\,c^4\,q^2\,r^2\,x}{150\,d^4}-\frac{25\,a\,b^3\,c^3\,q^2\,r^2\,x}{6\,d^3}+\frac{22\,a^2\,b^2\,c^2\,q^2\,r^2\,x}{3\,d^2}-$$
$$\frac{6\,a^3\,b\,c\,q^2\,r^2\,x}{d}+\frac{4}{25}\,a^3\,b\,p^2\,r^2\,x^2+\frac{283}{300}\,a^3\,b\,p\,q\,r^2\,x^2-\frac{7\,b^4\,c^3\,p\,q\,r^2\,x^2}{50\,d^3}+\frac{19\,a\,b^3\,c^2\,p\,q\,r^2\,x^2}{30\,d^2}-$$
$$\frac{67\,a^2\,b^2\,c\,p\,q\,r^2\,x^2}{60\,d}+a^3\,b\,q^2\,r^2\,x^2-\frac{77\,b^4\,c^3\,q^2\,r^2\,x^2}{300\,d^3}+\frac{13\,a\,b^3\,c^2\,q^2\,r^2\,x^2}{12\,d^2}-\frac{5\,a^2\,b^2\,c\,q^2\,r^2\,x^2}{3\,d}+$$
$$\frac{4}{25}\,a^2\,b^2\,p^2\,r^2\,x^3+\frac{257}{450}\,a^2\,b^2\,p\,q\,r^2\,x^3+\frac{16\,b^4\,c^2\,p\,q\,r^2\,x^3}{225\,d^2}-\frac{29\,a\,b^3\,c\,p\,q\,r^2\,x^3}{90\,d}+$$
$$\frac{4}{9}\,a^2\,b^2\,q^2\,r^2\,x^3+\frac{47\,b^4\,c^2\,q^2\,r^2\,x^3}{450\,d^2}-\frac{7\,a\,b^3\,c\,q^2\,r^2\,x^3}{18\,d}+\frac{2}{25}\,a\,b^3\,p^2\,r^2\,x^4+\frac{41}{200}\,a\,b^3\,p\,q\,r^2\,x^4-$$
$$\frac{9\,b^4\,c\,p\,q\,r^2\,x^4}{200\,d}+\frac{1}{8}\,a\,b^3\,q^2\,r^2\,x^4-\frac{9\,b^4\,c\,q^2\,r^2\,x^4}{200\,d}+\frac{2}{125}\,b^4\,p^2\,r^2\,x^5+\frac{4}{125}\,b^4\,p\,q\,r^2\,x^5+$$
$$\frac{2}{125}\,b^4\,q^2\,r^2\,x^5-\frac{a^5\,p^2\,r^2\,\text{Log}[a+b\,x]^2}{5\,b}+\frac{2\,a^5\,p\,q\,r^2\,\text{Log}[c+d\,x]}{b}-\frac{2\,b^4\,c^5\,p\,q\,r^2\,\text{Log}[c+d\,x]}{25\,d^5}+$$
$$\frac{2\,a\,b^3\,c^4\,p\,q\,r^2\,\text{Log}[c+d\,x]}{5\,d^4}-\frac{4\,a^2\,b^2\,c^3\,p\,q\,r^2\,\text{Log}[c+d\,x]}{5\,d^3}+\frac{4\,a^3\,b\,c^2\,p\,q\,r^2\,\text{Log}[c+d\,x]}{5\,d^2}-$$
$$\frac{2\,a^4\,c\,p\,q\,r^2\,\text{Log}[c+d\,x]}{5\,d}-\frac{137\,b^4\,c^5\,q^2\,r^2\,\text{Log}[c+d\,x]}{150\,d^5}+\frac{25\,a\,b^3\,c^4\,q^2\,r^2\,\text{Log}[c+d\,x]}{6\,d^4}-$$
$$\frac{22\,a^2\,b^2\,c^3\,q^2\,r^2\,\text{Log}[c+d\,x]}{3\,d^3}+\frac{6\,a^3\,b\,c^2\,q^2\,r^2\,\text{Log}[c+d\,x]}{d^2}-\frac{2\,a^4\,c\,q^2\,r^2\,\text{Log}[c+d\,x]}{d}-$$
$$\frac{b^4\,c^5\,q^2\,r^2\,\text{Log}[c+d\,x]^2}{5\,d^5}+\frac{a\,b^3\,c^4\,q^2\,r^2\,\text{Log}[c+d\,x]^2}{d^4}-\frac{2\,a^2\,b^2\,c^3\,q^2\,r^2\,\text{Log}[c+d\,x]^2}{d^3}+$$
$$\frac{2\,a^3\,b\,c^2\,q^2\,r^2\,\text{Log}[c+d\,x]^2}{d^2}-\frac{a^4\,c\,q^2\,r^2\,\text{Log}[c+d\,x]^2}{d}-\frac{2\,a^5\,p\,r\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]}{b}-$$
$$\frac{2}{5}\,a^4\,p\,r\,x\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]-2\,a^4\,q\,r\,x\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]-$$
$$\frac{2\,b^4\,c^4\,q\,r\,x\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]}{5\,d^4}+\frac{2\,a\,b^3\,c^3\,q\,r\,x\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]}{d^3}-$$
$$\frac{4\,a^2\,b^2\,c^2\,q\,r\,x\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]}{d^2}+\frac{4\,a^3\,b\,c\,q\,r\,x\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]}{d}-$$
$$\frac{4}{5}\,a^3\,b\,p\,r\,x^2\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]-2\,a^3\,b\,q\,r\,x^2\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]+$$
$$\frac{b^4\,c^3\,q\,r\,x^2\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]}{5\,d^3}-\frac{a\,b^3\,c^2\,q\,r\,x^2\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]}{d^2}+$$
$$\frac{2\,a^2\,b^2\,c\,q\,r\,x^2\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]}{d}-\frac{4}{5}\,a^2\,b^2\,p\,r\,x^3\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]-$$
$$\frac{4}{3}\,a^2\,b^2\,q\,r\,x^3\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]-\frac{2\,b^4\,c^2\,q\,r\,x^3\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]}{15\,d^2}+$$

$$\frac{2\,a\,b^3\,c\,q\,r\,x^3\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]}{3\,d}-\frac{2}{5}\,a\,b^3\,p\,r\,x^4\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]-$$
$$\frac{1}{2}\,a\,b^3\,q\,r\,x^4\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]+\frac{b^4\,c\,q\,r\,x^4\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]}{10\,d}-$$
$$\frac{2}{25}\,b^4\,p\,r\,x^5\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]-\frac{2}{25}\,b^4\,q\,r\,x^5\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]+$$
$$\frac{2\,b^4\,c^5\,q\,r\,\text{Log}[c+d\,x]\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]}{5\,d^5}-$$
$$\frac{2\,a\,b^3\,c^4\,q\,r\,\text{Log}[c+d\,x]\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]}{d^4}+$$
$$\frac{4\,a^2\,b^2\,c^3\,q\,r\,\text{Log}[c+d\,x]\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]}{d^3}-$$
$$\frac{4\,a^3\,b\,c^2\,q\,r\,\text{Log}[c+d\,x]\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]}{d^2}+$$
$$\frac{2\,a^4\,c\,q\,r\,\text{Log}[c+d\,x]\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]}{d}+$$
$$a^4\,x\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]^2+2\,a^3\,b\,x^2\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]^2+$$
$$2\,a^2\,b^2\,x^3\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]^2+a\,b^3\,x^4\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]^2+$$
$$\frac{1}{5}\,b^4\,x^5\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]^2+\frac{1}{150\,b\,d^5}p\,r\,\text{Log}[a+b\,x]$$
$$\Big(a\,d\,\left(a^4\,d^4\,(288\,p-137\,q)-60\,b^4\,c^4\,q+270\,a\,b^3\,c^3\,d\,q-470\,a^2\,b^2\,c^2\,d^2\,q+385\,a^3\,b\,c\,d^3\,q\right)\,r-$$
$$60\,b\,c\,\left(b^4\,c^4-5\,a\,b^3\,c^3\,d+10\,a^2\,b^2\,c^2\,d^2-10\,a^3\,b\,c\,d^3+5\,a^4\,d^4\right)\,q\,r\,\text{Log}[c+d\,x]+$$
$$60\,(b\,c-a\,d)^5\,q\,r\,\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]+60\,a^5\,d^5\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]\Big)+$$
$$\frac{2\,(b\,c-a\,d)^5\,p\,q\,r^2\,\text{PolyLog}\left[2,\,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]}{5\,b\,d^5}$$

Problem 17: Result more than twice size of optimal antiderivative.

$$\int(a+b\,x)^3\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]^2\,\mathbb{d}x$$

Optimal (type 4, 805 leaves, 28 steps):

$$\frac{a\,(b\,c-a\,d)^2\,p\,q\,r^2\,x}{4\,d^2}-\frac{(b\,c-a\,d)^3\,p\,q\,r^2\,x}{8\,d^3}-\frac{13\,(b\,c-a\,d)^3\,q^2\,r^2\,x}{24\,d^3}-$$
$$\frac{(b\,c-a\,d)^3\,q\,(p+q)\,r^2\,x}{2\,d^3}+\frac{b\,(b\,c-a\,d)^2\,p\,q\,r^2\,x^2}{8\,d^2}+\frac{(b\,c-a\,d)^2\,p\,q\,r^2\,(a+b\,x)^2}{16\,b\,d^2}+$$
$$\frac{13\,(b\,c-a\,d)^2\,q^2\,r^2\,(a+b\,x)^2}{48\,b\,d^2}-\frac{7\,(b\,c-a\,d)\,p\,q\,r^2\,(a+b\,x)^3}{72\,b\,d}-\frac{7\,(b\,c-a\,d)\,q^2\,r^2\,(a+b\,x)^3}{72\,b\,d}+$$
$$\frac{p^2\,r^2\,(a+b\,x)^4}{32\,b}+\frac{p\,q\,r^2\,(a+b\,x)^4}{16\,b}+\frac{q^2\,r^2\,(a+b\,x)^4}{32\,b}+\frac{(b\,c-a\,d)^4\,p\,q\,r^2\,\text{Log}[c+d\,x]}{8\,b\,d^4}+$$
$$\frac{25\,(b\,c-a\,d)^4\,q^2\,r^2\,\text{Log}[c+d\,x]}{24\,b\,d^4}+\frac{(b\,c-a\,d)^4\,p\,q\,r^2\,\text{Log}\left[-\frac{d\,(a+b\,x)}{b\,c-a\,d}\right]\text{Log}[c+d\,x]}{2\,b\,d^4}+$$
$$\frac{(b\,c-a\,d)^4\,q^2\,r^2\,\text{Log}[c+d\,x]^2}{4\,b\,d^4}+\frac{(b\,c-a\,d)^3\,q\,r\,(a+b\,x)\,\text{Log}\left[e\,(f\,(a+b\,x)^p\,(c+d\,x)^q)^r\right]}{2\,b\,d^3}-$$
$$\frac{(b\,c-a\,d)^2\,q\,r\,(a+b\,x)^2\,\text{Log}\left[e\,(f\,(a+b\,x)^p\,(c+d\,x)^q)^r\right]}{4\,b\,d^2}+$$
$$\frac{(b\,c-a\,d)\,q\,r\,(a+b\,x)^3\,\text{Log}\left[e\,(f\,(a+b\,x)^p\,(c+d\,x)^q)^r\right]}{6\,b\,d}-$$
$$\frac{p\,r\,(a+b\,x)^4\,\text{Log}\left[e\,(f\,(a+b\,x)^p\,(c+d\,x)^q)^r\right]}{8\,b}-\frac{q\,r\,(a+b\,x)^4\,\text{Log}\left[e\,(f\,(a+b\,x)^p\,(c+d\,x)^q)^r\right]}{8\,b}-$$
$$\frac{(b\,c-a\,d)^4\,q\,r\,\text{Log}[c+d\,x]\,\text{Log}\left[e\,(f\,(a+b\,x)^p\,(c+d\,x)^q)^r\right]}{2\,b\,d^4}+$$
$$\frac{(a+b\,x)^4\,\text{Log}\left[e\,(f\,(a+b\,x)^p\,(c+d\,x)^q)^r\right]^2}{4\,b}+\frac{(b\,c-a\,d)^4\,p\,q\,r^2\,\text{PolyLog}\left[2,\,\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]}{2\,b\,d^4}$$

Result (type 4, 1853 leaves) :

$$\frac{2\,a^4\,p\,q\,r^2}{b}-\frac{a\,b^2\,c^3\,p\,q\,r^2}{2\,d^3}+\frac{2\,a^2\,b\,c^2\,p\,q\,r^2}{d^2}-\frac{3\,a^3\,c\,p\,q\,r^2}{d}+\frac{1}{8}a^3\,p^2\,r^2\,x+\frac{37}{24}a^3\,p\,q\,r^2\,x-$$
$$\frac{5\,b^3\,c^3\,p\,q\,r^2\,x}{8\,d^3}+\frac{9\,a\,b^2\,c^2\,p\,q\,r^2\,x}{4\,d^2}-\frac{35\,a^2\,b\,c\,p\,q\,r^2\,x}{12\,d}+2\,a^3\,q^2\,r^2\,x-\frac{25\,b^3\,c^3\,q^2\,r^2\,x}{24\,d^3}+$$
$$\frac{11\,a\,b^2\,c^2\,q^2\,r^2\,x}{3\,d^2}-\frac{9\,a^2\,b\,c\,q^2\,r^2\,x}{2\,d}+\frac{3}{16}a^2\,b\,p^2\,r^2\,x^2+\frac{41}{48}a^2\,b\,p\,q\,r^2\,x^2+\frac{3\,b^3\,c^2\,p\,q\,r^2\,x^2}{16\,d^2}-$$
$$\frac{2\,a\,b^2\,c\,p\,q\,r^2\,x^2}{3\,d}+\frac{3}{4}a^2\,b\,q^2\,r^2\,x^2+\frac{13\,b^3\,c^2\,q^2\,r^2\,x^2}{48\,d^2}-\frac{5\,a\,b^2\,c\,q^2\,r^2\,x^2}{6\,d}+\frac{1}{8}a\,b^2\,p^2\,r^2\,x^3+$$
$$\frac{25}{72}a\,b^2\,p\,q\,r^2\,x^3-\frac{7\,b^3\,c\,p\,q\,r^2\,x^3}{72\,d}+\frac{2}{9}a\,b^2\,q^2\,r^2\,x^3-\frac{7\,b^3\,c\,q^2\,r^2\,x^3}{72\,d}+\frac{1}{32}b^3\,p^2\,r^2\,x^4+$$
$$\frac{1}{16}b^3\,p\,q\,r^2\,x^4+\frac{1}{32}b^3\,q^2\,r^2\,x^4-\frac{a^4\,p^2\,r^2\,\text{Log}[a+b\,x]^2}{4\,b}+\frac{2\,a^4\,p\,q\,r^2\,\text{Log}[c+d\,x]}{b}+$$
$$\frac{b^3\,c^4\,p\,q\,r^2\,\text{Log}[c+d\,x]}{8\,d^4}-\frac{a\,b^2\,c^3\,p\,q\,r^2\,\text{Log}[c+d\,x]}{2\,d^3}+\frac{3\,a^2\,b\,c^2\,p\,q\,r^2\,\text{Log}[c+d\,x]}{4\,d^2}-$$
$$\frac{a^3\,c\,p\,q\,r^2\,\text{Log}[c+d\,x]}{2\,d}+\frac{25\,b^3\,c^4\,q^2\,r^2\,\text{Log}[c+d\,x]}{24\,d^4}-\frac{11\,a\,b^2\,c^3\,q^2\,r^2\,\text{Log}[c+d\,x]}{3\,d^3}+$$
$$\frac{9\,a^2\,b\,c^2\,q^2\,r^2\,\text{Log}[c+d\,x]}{2\,d^2}-\frac{2\,a^3\,c\,q^2\,r^2\,\text{Log}[c+d\,x]}{d}+\frac{b^3\,c^4\,q^2\,r^2\,\text{Log}[c+d\,x]^2}{4\,d^4}-$$

$$\frac{a\,b^2\,c^3\,q^2\,r^2\,\text{Log}[c+d\,x]^2}{d^3}+\frac{3\,a^2\,b\,c^2\,q^2\,r^2\,\text{Log}[c+d\,x]^2}{2\,d^2}-\frac{a^3\,c\,q^2\,r^2\,\text{Log}[c+d\,x]^2}{d}-$$
$$\frac{2\,a^4\,p\,r\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]}{b}-\frac{1}{2}a^3\,p\,r\,x\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]-$$
$$2\,a^3\,q\,r\,x\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]+\frac{b^3\,c^3\,q\,r\,x\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]}{2\,d^3}-$$
$$\frac{2\,a\,b^2\,c^2\,q\,r\,x\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]}{d^2}+\frac{3\,a^2\,b\,c\,q\,r\,x\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]}{d}-$$
$$\frac{3}{4}a^2\,b\,p\,r\,x^2\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]-\frac{3}{2}a^2\,b\,q\,r\,x^2\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]-$$
$$\frac{b^3\,c^2\,q\,r\,x^2\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]}{4\,d^2}+\frac{a\,b^2\,c\,q\,r\,x^2\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]}{d}-$$
$$\frac{1}{2}a\,b^2\,p\,r\,x^3\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]-\frac{2}{3}a\,b^2\,q\,r\,x^3\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]+$$
$$\frac{b^3\,c\,q\,r\,x^3\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]}{6\,d}-\frac{1}{8}b^3\,p\,r\,x^4\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]-$$
$$\frac{1}{8}b^3\,q\,r\,x^4\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]-\frac{b^3\,c^4\,q\,r\,\text{Log}[c+d\,x]\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]}{2\,d^4}+$$
$$\frac{2\,a\,b^2\,c^3\,q\,r\,\text{Log}[c+d\,x]\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]}{d^3}-$$
$$\frac{3\,a^2\,b\,c^2\,q\,r\,\text{Log}[c+d\,x]\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]}{d^2}+$$
$$\frac{2\,a^3\,c\,q\,r\,\text{Log}[c+d\,x]\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]}{d}+$$
$$a^3\,x\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]^2+\frac{3}{2}a^2\,b\,x^2\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]^2+$$
$$a\,b^2\,x^3\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]^2+\frac{1}{4}b^3\,x^4\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]^2+\frac{1}{24\,b\,d^4}$$
$$p\,r\,\text{Log}[a+b\,x]\left(a\,d\,\left(5\,a^3\,d^3\,(9\,p-5\,q)+12\,b^3\,c^3\,q-42\,a\,b^2\,c^2\,d\,q+52\,a^2\,b\,c\,d^2\,q\right)\,r+12\,b\,c\right.$$
$$\left(b^3\,c^3-4\,a\,b^2\,c^2\,d+6\,a^2\,b\,c\,d^2-4\,a^3\,d^3\right)\,q\,r\,\text{Log}[c+d\,x]-12\,(b\,c-a\,d)^4\,q\,r\,\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]+$$
$$\left.12\,a^4\,d^4\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]\right)-\frac{(b\,c-a\,d)^4\,p\,q\,r^2\,\text{PolyLog}\left[2,\,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]}{2\,b\,d^4}$$

Problem 23: Result more than twice size of optimal antiderivative.

$$\int\frac{\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]^2}{(a+b\,x)^4}\,dx$$

Optimal (type 4, 764 leaves, 28 steps):

$$-\frac{2p^2r^2}{27b(a+bx)^3}-\frac{5dpqr^2}{18b(bc-ad)(a+bx)^2}+\frac{8d^2pqr^2}{9b(bc-ad)^2(a+bx)}-\frac{d^2q^2r^2}{3b(bc-ad)^2(a+bx)}+\frac{2d^3pqr^2\log[a+bx]}{9b(bc-ad)^3}-\frac{d^3q^2r^2\log[a+bx]}{b(bc-ad)^3}-\frac{d^3pqr^2\log[a+bx]^2}{3b(bc-ad)^3}-\frac{2d^3pqr^2\log[c+dx]}{9b(bc-ad)^3}+\frac{d^3q^2r^2\log[c+dx]}{b(bc-ad)^3}+\frac{2d^3pqr^2\log\left[-\frac{d(a+bx)}{bc-ad}\right]\log[c+dx]}{3b(bc-ad)^3}+\frac{d^3q^2r^2\log[c+dx]^2}{3b(bc-ad)^3}-\frac{2d^3q^2r^2\log[a+bx]\log\left[\frac{b(c+dx)}{bc-ad}\right]}{3b(bc-ad)^3}-\frac{2pr\log\left[e\left(f(a+bx)^p(c+dx)^q\right)^r\right]}{9b(a+bx)^3}-\frac{dqr\log\left[e\left(f(a+bx)^p(c+dx)^q\right)^r\right]}{3b(bc-ad)(a+bx)^2}+\frac{2d^2qr\log\left[e\left(f(a+bx)^p(c+dx)^q\right)^r\right]}{3b(bc-ad)^2(a+bx)}+\frac{2d^3qr\log[a+bx]\log\left[e\left(f(a+bx)^p(c+dx)^q\right)^r\right]}{3b(bc-ad)^3}-\frac{2d^3qr\log[c+dx]\log\left[e\left(f(a+bx)^p(c+dx)^q\right)^r\right]}{3b(bc-ad)^3}-\frac{\log\left[e\left(f(a+bx)^p(c+dx)^q\right)^r\right]^2}{3b(a+bx)^3}-\frac{2d^3q^2r^2\operatorname{PolyLog}\left[2,-\frac{d(a+bx)}{bc-ad}\right]}{3b(bc-ad)^3}+\frac{2d^3pqr^2\operatorname{PolyLog}\left[2,\frac{b(c+dx)}{bc-ad}\right]}{3b(bc-ad)^3}$$

Result (type 4, 10 507 leaves):

$$-\frac{p^2r^2\left(6\log[a+bx]+18\log[a+bx]^2+27\log[a+bx]^3\right)}{81b(a+bx)^3\log[a+bx]}+\left(q^2r^2\left(b^2c^3-3abc^2d+3a^2cd^2+3a^2d^3x+3abd^3x^2+b^2d^3x^3\right)\log[c+dx]^2\right)\Big/\left(3(-bc+ad)^3(a+bx)^3\right)-\frac{1}{3b(a+bx)^3}\left(-pr\log[a+bx]-\log\left[f(a+bx)^p(c+dx)^q\right]\left(r-\frac{r\left(-q\log[c+dx]+\log\left[f(a+bx)^p(c+dx)^q\right]\right)}{\log\left[f(a+bx)^p(c+dx)^q\right]}\right)+\log\left[e\,e^{r\left(-p\log[a+bx]-q\log[c+dx]+\log\left[f(a+bx)^p(c+dx)^q\right]\right)}(a+bx)^{pr}\left(f(a+bx)^p(c+dx)^q\right)^{r-\frac{r\left(-q\log[c+dx]+\log\left[f(a+bx)^p(c+dx)^q\right]\right)}{\log\left[f(a+bx)^p(c+dx)^q\right]}}\right]\right)^2-\frac{1}{9b(bc-ad)^2(a+bx)}d^2qr\left(-2pr+3qr-6r\left(-p\log[a+bx]-q\log[c+dx]+\log\left[f(a+bx)^p(c+dx)^q\right]\right)-6\left(-pr\log[a+bx]-r\left(-p\log[a+bx]-q\log[c+dx]+\log\left[f(a+bx)^p(c+dx)^q\right]\right)-\log\left[f(a+bx)^p(c+dx)^q\right]\left(r-\frac{r\left(-q\log[c+dx]+\log\left[f(a+bx)^p(c+dx)^q\right]\right)}{\log\left[f(a+bx)^p(c+dx)^q\right]}\right)+\log\left[e\,e^{r\left(-p\log[a+bx]-q\log[c+dx]+\log\left[f(a+bx)^p(c+dx)^q\right]\right)}(a+bx)^{pr}\right.\right.$$

$$\left(f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right)^{r-\frac{r\left(-q\,\text{Log}\left[c+d\,x\right]+\text{Log}\left[f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right]\right)}{\text{Log}\left[f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right]}}\right]\Bigg)\Bigg) - \frac{1}{9\,b\left(b\,c-a\,d\right)^{3}}\,d^{3}\,q\,r\,\text{Log}\left[a+b\,x\right]$$

$$\Bigg(-2\,p\,r+9\,q\,r-6\,r\left(-p\,\text{Log}\left[a+b\,x\right]-q\,\text{Log}\left[c+d\,x\right]+\text{Log}\left[f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right]\right)-$$

$$6\Bigg(-p\,r\,\text{Log}\left[a+b\,x\right]-r\left(-p\,\text{Log}\left[a+b\,x\right]-q\,\text{Log}\left[c+d\,x\right]+\text{Log}\left[f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right]\right)-$$

$$\text{Log}\left[f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right]\left(r-\frac{r\left(-q\,\text{Log}\left[c+d\,x\right]+\text{Log}\left[f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right]\right)}{\text{Log}\left[f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right]}\right)+$$

$$\text{Log}\Big[e^{r\left(-p\,\text{Log}\left[a+b\,x\right]-q\,\text{Log}\left[c+d\,x\right]+\text{Log}\left[f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right]\right)}\left(a+b\,x\right)^{p\,r}$$

$$\left(f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right)^{r-\frac{r\left(-q\,\text{Log}\left[c+d\,x\right]+\text{Log}\left[f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right]\right)}{\text{Log}\left[f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right]}}\Big]\Bigg)\Bigg)+\frac{1}{9\,b\left(b\,c-a\,d\right)^{3}}\,d^{3}\,q\,r\,\text{Log}\left[c+d\,x\right]$$

$$\Bigg(-2\,p\,r+9\,q\,r-6\,r\left(-p\,\text{Log}\left[a+b\,x\right]-q\,\text{Log}\left[c+d\,x\right]+\text{Log}\left[f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right]\right)-$$

$$6\Bigg(-p\,r\,\text{Log}\left[a+b\,x\right]-r\left(-p\,\text{Log}\left[a+b\,x\right]-q\,\text{Log}\left[c+d\,x\right]+\text{Log}\left[f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right]\right)-$$

$$\text{Log}\left[f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right]\left(r-\frac{r\left(-q\,\text{Log}\left[c+d\,x\right]+\text{Log}\left[f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right]\right)}{\text{Log}\left[f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right]}\right)+$$

$$\text{Log}\Big[e^{r\left(-p\,\text{Log}\left[a+b\,x\right]-q\,\text{Log}\left[c+d\,x\right]+\text{Log}\left[f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right]\right)}\left(a+b\,x\right)^{p\,r}$$

$$\left(f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right)^{r-\frac{r\left(-q\,\text{Log}\left[c+d\,x\right]+\text{Log}\left[f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right]\right)}{\text{Log}\left[f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right]}}\Big]\Bigg)\Bigg)-\frac{1}{9\,b\left(b\,c-a\,d\right)\left(a+b\,x\right)^{2}}$$

$$d\,q\,r\Bigg(p\,r+3\,r\left(-p\,\text{Log}\left[a+b\,x\right]-q\,\text{Log}\left[c+d\,x\right]+\text{Log}\left[f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right]\right)+$$

$$3\Bigg(-p\,r\,\text{Log}\left[a+b\,x\right]-r\left(-p\,\text{Log}\left[a+b\,x\right]-q\,\text{Log}\left[c+d\,x\right]+\text{Log}\left[f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right]\right)-$$

$$\text{Log}\left[f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right]\left(r-\frac{r\left(-q\,\text{Log}\left[c+d\,x\right]+\text{Log}\left[f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right]\right)}{\text{Log}\left[f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right]}\right)+$$

$$\text{Log}\Big[e^{r\left(-p\,\text{Log}\left[a+b\,x\right]-q\,\text{Log}\left[c+d\,x\right]+\text{Log}\left[f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right]\right)}\left(a+b\,x\right)^{p\,r}$$

$$\left(f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right)^{r-\frac{r\left(-q\,\text{Log}\left[c+d\,x\right]+\text{Log}\left[f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right]\right)}{\text{Log}\left[f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right]}}\Big]\Bigg)\Bigg)+$$

$$\text{Log}\left[c+d\,x\right]\Bigg(-\frac{d\,q^{2}\,r^{2}}{3\,b\left(b\,c-a\,d\right)\left(a+b\,x\right)^{2}}+\frac{2\,d^{2}\,q^{2}\,r^{2}}{3\,b\left(b\,c-a\,d\right)^{2}\left(a+b\,x\right)}+$$

$$\frac{2\,d^{3}\,q^{2}\,r^{2}\,\text{Log}\left[a+b\,x\right]}{3\,b\left(b\,c-a\,d\right)^{3}}-\frac{2\,p\,q\,r^{2}\,\text{Log}\left[a+b\,x\right]}{3\,b\left(a+b\,x\right)^{3}}-$$

$$\frac{1}{9\,b\left(a+b\,x\right)^{3}}\,2\,q\,r\Bigg(p\,r+3\,r\left(-p\,\text{Log}\left[a+b\,x\right]-q\,\text{Log}\left[c+d\,x\right]+\text{Log}\left[f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right]\right)+$$

$$3\Bigg(-p\,r\,\text{Log}\left[a+b\,x\right]-r\left(-p\,\text{Log}\left[a+b\,x\right]-q\,\text{Log}\left[c+d\,x\right]+\text{Log}\left[f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right]\right)-$$

$$\text{Log}\left[f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right]\left(r-\frac{r\left(-q\,\text{Log}\left[c+d\,x\right]+\text{Log}\left[f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right]\right)}{\text{Log}\left[f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right]}\right)+$$
$$\text{Log}\left[e\,e^{r\left(-p\,\text{Log}\left[a+b\,x\right]-q\,\text{Log}\left[c+d\,x\right]+\text{Log}\left[f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right]\right)}\left(a+b\,x\right)^{p\,r}\left(f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right)^{r-\frac{r\left(-q\,\text{Log}\left[c+d\,x\right]+\text{Log}\left[f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right]\right)}{\text{Log}\left[f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right]}}\right]\Bigg)\Bigg)-\frac{1}{3\left(b\,c-a\,d\right)^{3}}$$

$$8\,a\,b^{2}\,d^{4}\,q^{2}\,r^{2}\left(\frac{c^{3}\,\text{Log}\left[a+b\,x\right]^{2}}{2\left(b\,c-a\,d\right)^{4}}+\frac{\left(3\,a\,b^{2}\,c^{2}-3\,a^{2}\,b\,c\,d+a^{3}\,d^{2}\right)\left(1+\text{Log}\left[a+b\,x\right]\right)}{b^{2}\left(b\,c-a\,d\right)^{3}\left(a\,b+b^{2}\,x\right)}-\right.$$
$$\frac{\left(3\,a^{2}\,b\,c-2\,a^{3}\,d\right)\left(1+2\,\text{Log}\left[a+b\,x\right]\right)}{4\,b^{3}\left(b\,c-a\,d\right)^{2}\left(a+b\,x\right)^{2}}+$$
$$\frac{a^{3}\left(1+3\,\text{Log}\left[a+b\,x\right]\right)}{9\,b^{3}\left(b\,c-a\,d\right)\left(a+b\,x\right)^{3}}-$$
$$\left.\frac{c^{3}\left(\text{Log}\left[a+b\,x\right]\,\text{Log}\left[\frac{b\left(c+d\,x\right)}{b\,c-a\,d}\right]+\text{PolyLog}\left[2,\,\frac{d\left(a+b\,x\right)}{-b\,c+a\,d}\right]\right)}{\left(b\,c-a\,d\right)^{4}}\right)-\frac{1}{3\left(b\,c-a\,d\right)^{3}}$$

$$2\,b^{3}\,d^{4}\,q^{2}\,r^{2}\left(-\frac{\left(4\,a\,b^{3}\,c^{3}-6\,a^{2}\,b^{2}\,c^{2}\,d+4\,a^{3}\,b\,c\,d^{2}-a^{4}\,d^{3}\right)\text{Log}\left[a+b\,x\right]^{2}}{2\,b^{4}\left(b\,c-a\,d\right)^{4}}-\right.$$
$$\frac{\left(6\,a^{2}\,b^{2}\,c^{2}-8\,a^{3}\,b\,c\,d+3\,a^{4}\,d^{2}\right)\left(1+\text{Log}\left[a+b\,x\right]\right)}{b^{3}\left(b\,c-a\,d\right)^{3}\left(a\,b+b^{2}\,x\right)}+$$
$$\frac{\left(4\,a^{3}\,b\,c-3\,a^{4}\,d\right)\left(1+2\,\text{Log}\left[a+b\,x\right]\right)}{4\,b^{4}\left(b\,c-a\,d\right)^{2}\left(a+b\,x\right)^{2}}-\frac{a^{4}\left(1+3\,\text{Log}\left[a+b\,x\right]\right)}{9\,b^{4}\left(b\,c-a\,d\right)\left(a+b\,x\right)^{3}}+$$
$$\left.\frac{c^{4}\left(\text{Log}\left[a+b\,x\right]\,\text{Log}\left[\frac{b\left(c+d\,x\right)}{b\,c-a\,d}\right]+\text{PolyLog}\left[2,\,\frac{d\left(a+b\,x\right)}{-b\,c+a\,d}\right]\right)}{d\left(b\,c-a\,d\right)^{4}}\right)-$$

$$\frac{1}{\left(b\,c-a\,d\right)^{3}}4\,a^{2}\,b\,d^{4}\,q^{2}\,r^{2}\left(-\frac{c^{2}\,d\,\text{Log}\left[a+b\,x\right]^{2}}{2\left(b\,c-a\,d\right)^{4}}-\frac{b\,c^{2}\left(1+\text{Log}\left[a+b\,x\right]\right)}{\left(b\,c-a\,d\right)^{3}\left(a\,b+b^{2}\,x\right)}+\right.$$
$$\frac{\left(2\,a\,b\,c-a^{2}\,d\right)\left(1+2\,\text{Log}\left[a+b\,x\right]\right)}{4\,b^{2}\left(b\,c-a\,d\right)^{2}\left(a+b\,x\right)^{2}}-\frac{a^{2}\left(1+3\,\text{Log}\left[a+b\,x\right]\right)}{9\,b^{2}\left(b\,c-a\,d\right)\left(a+b\,x\right)^{3}}+$$
$$\left.\frac{c^{2}\,d\left(\text{Log}\left[a+b\,x\right]\,\text{Log}\left[\frac{b\left(c+d\,x\right)}{b\,c-a\,d}\right]+\text{PolyLog}\left[2,\,\frac{d\left(a+b\,x\right)}{-b\,c+a\,d}\right]\right)}{\left(b\,c-a\,d\right)^{4}}\right)+$$

$$\frac{1}{3\left(b\,c-a\,d\right)^{3}}2\,b^{3}\,c^{3}\,d\,p\,q\,r^{2}\left(\frac{c\,d^{2}\,\text{Log}\left[a+b\,x\right]^{2}}{2\left(b\,c-a\,d\right)^{4}}+\frac{b\,c\,d\left(1+\text{Log}\left[a+b\,x\right]\right)}{\left(b\,c-a\,d\right)^{3}\left(a\,b+b^{2}\,x\right)}-\right.$$
$$\frac{c\left(1+2\,\text{Log}\left[a+b\,x\right]\right)}{4\left(b\,c-a\,d\right)^{2}\left(a+b\,x\right)^{2}}-\frac{a\left(1+3\,\text{Log}\left[a+b\,x\right]\right)}{9\,b\left(-b\,c+a\,d\right)\left(a+b\,x\right)^{3}}-$$
$$\left.\frac{c\,d^{2}\left(\text{Log}\left[a+b\,x\right]\,\text{Log}\left[\frac{b\left(c+d\,x\right)}{b\,c-a\,d}\right]+\text{PolyLog}\left[2,\,\frac{d\left(a+b\,x\right)}{-b\,c+a\,d}\right]\right)}{\left(b\,c-a\,d\right)^{4}}\right)-$$

$$\frac{1}{(b c-a d)^3} 2 a b^2 c^2 d^2 p q r^2 \left(\frac{c d^2 \operatorname{Log}[a+b x]^2}{2 (b c-a d)^4} + \frac{b c d (1+\operatorname{Log}[a+b x])}{(b c-a d)^3 (a b+b^2 x)} - \frac{c (1+2 \operatorname{Log}[a+b x])}{4 (b c-a d)^2 (a+b x)^2} - \frac{a (1+3 \operatorname{Log}[a+b x])}{9 b (-b c+a d) (a+b x)^3} - \frac{c d^2 \left(\operatorname{Log}[a+b x] \operatorname{Log}\left[\frac{b (c+d x)}{b c-a d}\right] + \operatorname{PolyLog}\left[2, \frac{d (a+b x)}{-b c+a d}\right] \right)}{(b c-a d)^4} \right) +$$

$$\frac{1}{(b c-a d)^3} 2 a^2 b c d^3 p q r^2 \left(\frac{c d^2 \operatorname{Log}[a+b x]^2}{2 (b c-a d)^4} + \frac{b c d (1+\operatorname{Log}[a+b x])}{(b c-a d)^3 (a b+b^2 x)} - \frac{c (1+2 \operatorname{Log}[a+b x])}{4 (b c-a d)^2 (a+b x)^2} - \frac{a (1+3 \operatorname{Log}[a+b x])}{9 b (-b c+a d) (a+b x)^3} - \frac{c d^2 \left(\operatorname{Log}[a+b x] \operatorname{Log}\left[\frac{b (c+d x)}{b c-a d}\right] + \operatorname{PolyLog}\left[2, \frac{d (a+b x)}{-b c+a d}\right] \right)}{(b c-a d)^4} \right) -$$

$$\frac{1}{3 (b c-a d)^3} 2 a^3 d^4 p q r^2 \left(\frac{c d^2 \operatorname{Log}[a+b x]^2}{2 (b c-a d)^4} + \frac{b c d (1+\operatorname{Log}[a+b x])}{(b c-a d)^3 (a b+b^2 x)} - \frac{c (1+2 \operatorname{Log}[a+b x])}{4 (b c-a d)^2 (a+b x)^2} - \frac{a (1+3 \operatorname{Log}[a+b x])}{9 b (-b c+a d) (a+b x)^3} - \frac{c d^2 \left(\operatorname{Log}[a+b x] \operatorname{Log}\left[\frac{b (c+d x)}{b c-a d}\right] + \operatorname{PolyLog}\left[2, \frac{d (a+b x)}{-b c+a d}\right] \right)}{(b c-a d)^4} \right) - \frac{1}{3 (b c-a d)^3}$$

$$8 a^3 d^4 q^2 r^2 \left(\frac{c d^2 \operatorname{Log}[a+b x]^2}{2 (b c-a d)^4} + \frac{b c d (1+\operatorname{Log}[a+b x])}{(b c-a d)^3 (a b+b^2 x)} - \frac{c (1+2 \operatorname{Log}[a+b x])}{4 (b c-a d)^2 (a+b x)^2} - \frac{a (1+3 \operatorname{Log}[a+b x])}{9 b (-b c+a d) (a+b x)^3} - \frac{c d^2 \left(\operatorname{Log}[a+b x] \operatorname{Log}\left[\frac{b (c+d x)}{b c-a d}\right] + \operatorname{PolyLog}\left[2, \frac{d (a+b x)}{-b c+a d}\right] \right)}{(b c-a d)^4} \right) +$$

$$\frac{1}{(b c-a d)^3} 2 b^3 c^3 d p r^2 \left(-p \operatorname{Log}[a+b x] - q \operatorname{Log}[c+d x] + \operatorname{Log}\left[f (a+b x)^p (c+d x)^q\right]\right)$$
$$\left(\frac{c d^2 \operatorname{Log}[a+b x]^2}{2 (b c-a d)^4} + \frac{b c d (1+\operatorname{Log}[a+b x])}{(b c-a d)^3 (a b+b^2 x)} - \frac{c (1+2 \operatorname{Log}[a+b x])}{4 (b c-a d)^2 (a+b x)^2} - \frac{a (1+3 \operatorname{Log}[a+b x])}{9 b (-b c+a d) (a+b x)^3} - \frac{c d^2 \left(\operatorname{Log}[a+b x] \operatorname{Log}\left[\frac{b (c+d x)}{b c-a d}\right] + \operatorname{PolyLog}\left[2, \frac{d (a+b x)}{-b c+a d}\right] \right)}{(b c-a d)^4} \right) -$$

$$\frac{1}{(b c-a d)^3} 6 a b^2 c^2 d^2 p r^2 \left(-p \operatorname{Log}[a+b x] - q \operatorname{Log}[c+d x] + \operatorname{Log}\left[f (a+b x)^p (c+d x)^q\right]\right)$$
$$\left(\frac{c d^2 \operatorname{Log}[a+b x]^2}{2 (b c-a d)^4} + \frac{b c d (1+\operatorname{Log}[a+b x])}{(b c-a d)^3 (a b+b^2 x)} - \frac{c (1+2 \operatorname{Log}[a+b x])}{4 (b c-a d)^2 (a+b x)^2} - \right.$$

$$\frac{a\left(1+3\,\text{Log}[a+b\,x]\right)}{9\,b\left(-b\,c+a\,d\right)\left(a+b\,x\right)^3}-\frac{c\,d^2\left(\text{Log}[a+b\,x]\,\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]+\text{PolyLog}\left[2,\,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]\right)}{\left(b\,c-a\,d\right)^4}\Bigg)+$$

$$\frac{1}{\left(b\,c-a\,d\right)^3}6\,a^2\,b\,c\,d^3\,p\,r^2\left(-p\,\text{Log}[a+b\,x]-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\left(a+b\,x\right)^p\left(c+d\,x\right)^q\right]\right)$$

$$\Bigg(\frac{c\,d^2\,\text{Log}[a+b\,x]^2}{2\left(b\,c-a\,d\right)^4}+\frac{b\,c\,d\left(1+\text{Log}[a+b\,x]\right)}{\left(b\,c-a\,d\right)^3\left(a\,b+b^2\,x\right)}-\frac{c\left(1+2\,\text{Log}[a+b\,x]\right)}{4\left(b\,c-a\,d\right)^2\left(a+b\,x\right)^2}-$$

$$\frac{a\left(1+3\,\text{Log}[a+b\,x]\right)}{9\,b\left(-b\,c+a\,d\right)\left(a+b\,x\right)^3}-\frac{c\,d^2\left(\text{Log}[a+b\,x]\,\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]+\text{PolyLog}\left[2,\,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]\right)}{\left(b\,c-a\,d\right)^4}\Bigg)-$$

$$\frac{1}{\left(b\,c-a\,d\right)^3}2\,a^3\,d^4\,p\,r^2\left(-p\,\text{Log}[a+b\,x]-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\left(a+b\,x\right)^p\left(c+d\,x\right)^q\right]\right)$$

$$\Bigg(\frac{c\,d^2\,\text{Log}[a+b\,x]^2}{2\left(b\,c-a\,d\right)^4}+\frac{b\,c\,d\left(1+\text{Log}[a+b\,x]\right)}{\left(b\,c-a\,d\right)^3\left(a\,b+b^2\,x\right)}-\frac{c\left(1+2\,\text{Log}[a+b\,x]\right)}{4\left(b\,c-a\,d\right)^2\left(a+b\,x\right)^2}-\frac{a\left(1+3\,\text{Log}[a+b\,x]\right)}{9\,b\left(-b\,c+a\,d\right)\left(a+b\,x\right)^3}-$$

$$\frac{c\,d^2\left(\text{Log}[a+b\,x]\,\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]+\text{PolyLog}\left[2,\,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]\right)}{\left(b\,c-a\,d\right)^4}\Bigg)+\frac{1}{\left(b\,c-a\,d\right)^3}$$

$$2\,b^3\,c^3\,d\,p\,r\Bigg(-p\,r\,\text{Log}[a+b\,x]-r\left(-p\,\text{Log}[a+b\,x]-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\left(a+b\,x\right)^p\left(c+d\,x\right)^q\right]\right)-$$

$$\text{Log}\left[f\left(a+b\,x\right)^p\left(c+d\,x\right)^q\right]\left(r-\frac{r\left(-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\left(a+b\,x\right)^p\left(c+d\,x\right)^q\right]\right)}{\text{Log}\left[f\left(a+b\,x\right)^p\left(c+d\,x\right)^q\right]}\right)+$$

$$\text{Log}\left[e^{r\left(-p\,\text{Log}[a+b\,x]-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\left(a+b\,x\right)^p\left(c+d\,x\right)^q\right]\right)}\left(a+b\,x\right)^{p\,r}\left(f\left(a+b\,x\right)^p\left(c+d\,x\right)^q\right)^{r-\frac{r\left(-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\left(a+b\,x\right)^p\left(c+d\,x\right)^q\right]\right)}{\text{Log}\left[f\left(a+b\,x\right)^p\left(c+d\,x\right)^q\right]}}\right]\Bigg)\Bigg(\frac{c\,d^2\,\text{Log}[a+b\,x]^2}{2\left(b\,c-a\,d\right)^4}+$$

$$\frac{b\,c\,d\left(1+\text{Log}[a+b\,x]\right)}{\left(b\,c-a\,d\right)^3\left(a\,b+b^2\,x\right)}-\frac{c\left(1+2\,\text{Log}[a+b\,x]\right)}{4\left(b\,c-a\,d\right)^2\left(a+b\,x\right)^2}-\frac{a\left(1+3\,\text{Log}[a+b\,x]\right)}{9\,b\left(-b\,c+a\,d\right)\left(a+b\,x\right)^3}-$$

$$\frac{c\,d^2\left(\text{Log}[a+b\,x]\,\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]+\text{PolyLog}\left[2,\,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]\right)}{\left(b\,c-a\,d\right)^4}\Bigg)-\frac{1}{\left(b\,c-a\,d\right)^3}$$

$$6\,a\,b^2\,c^2\,d^2\,p\,r\Bigg(-p\,r\,\text{Log}[a+b\,x]-r\left(-p\,\text{Log}[a+b\,x]-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\left(a+b\,x\right)^p\left(c+d\,x\right)^q\right]\right)-$$

$$\text{Log}\left[f\left(a+b\,x\right)^p\left(c+d\,x\right)^q\right]\left(r-\frac{r\left(-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\left(a+b\,x\right)^p\left(c+d\,x\right)^q\right]\right)}{\text{Log}\left[f\left(a+b\,x\right)^p\left(c+d\,x\right)^q\right]}\right)+$$

$$\text{Log}\left[e^{r\left(-p\,\text{Log}[a+b\,x]-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\left(a+b\,x\right)^p\left(c+d\,x\right)^q\right]\right)}\left(a+b\,x\right)^{p\,r}\left(f\left(a+b\,x\right)^p\left(c+d\,x\right)^q\right)^{r-\frac{r\left(-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\left(a+b\,x\right)^p\left(c+d\,x\right)^q\right]\right)}{\text{Log}\left[f\left(a+b\,x\right)^p\left(c+d\,x\right)^q\right]}}\right]\Bigg)\Bigg(\frac{c\,d^2\,\text{Log}[a+b\,x]^2}{2\left(b\,c-a\,d\right)^4}+$$

$$\frac{b\,c\,d\left(1+\text{Log}[a+b\,x]\right)}{\left(b\,c-a\,d\right)^3\left(a\,b+b^2\,x\right)}-\frac{c\left(1+2\,\text{Log}[a+b\,x]\right)}{4\left(b\,c-a\,d\right)^2\left(a+b\,x\right)^2}-\frac{a\left(1+3\,\text{Log}[a+b\,x]\right)}{9\,b\left(-b\,c+a\,d\right)\left(a+b\,x\right)^3}-$$

$$\frac{c\,d^2\left(\text{Log}[a+b\,x]\,\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]+\text{PolyLog}\left[2,\,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]\right)}{(b\,c-a\,d)^4}\Bigg)+\frac{1}{(b\,c-a\,d)^3}$$

$$6\,a^2\,b\,c\,d^3\,p\,r\left(-p\,r\,\text{Log}[a+b\,x]-r\left(-p\,\text{Log}[a+b\,x]-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)-\right.$$

$$\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\left(r-\frac{r\left(-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)}{\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]}\right)+$$

$$\text{Log}\left[e^{r\left(-p\,\text{Log}[a+b\,x]-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)}\,(a+b\,x)^{p\,r}\right.$$

$$\left.\left.\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^{r-\frac{r\left(-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)}{\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]}}\right]\right)\left(\frac{c\,d^2\,\text{Log}[a+b\,x]^2}{2\,(b\,c-a\,d)^4}+\right.$$

$$\frac{b\,c\,d\,(1+\text{Log}[a+b\,x])}{(b\,c-a\,d)^3\,(a\,b+b^2\,x)}-\frac{c\,(1+2\,\text{Log}[a+b\,x])}{4\,(b\,c-a\,d)^2\,(a+b\,x)^2}-\frac{a\,(1+3\,\text{Log}[a+b\,x])}{9\,b\,(-b\,c+a\,d)\,(a+b\,x)^3}-$$

$$\left.\frac{c\,d^2\left(\text{Log}[a+b\,x]\,\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]+\text{PolyLog}\left[2,\,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]\right)}{(b\,c-a\,d)^4}\right)-\frac{1}{(b\,c-a\,d)^3}$$

$$2\,a^3\,d^4\,p\,r\left(-p\,r\,\text{Log}[a+b\,x]-r\left(-p\,\text{Log}[a+b\,x]-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)-\right.$$

$$\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\left(r-\frac{r\left(-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)}{\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]}\right)+$$

$$\text{Log}\left[e^{r\left(-p\,\text{Log}[a+b\,x]-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)}\,(a+b\,x)^{p\,r}\right.$$

$$\left.\left.\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^{r-\frac{r\left(-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)}{\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]}}\right]\right)$$

$$\left(\frac{c\,d^2\,\text{Log}[a+b\,x]^2}{2\,(b\,c-a\,d)^4}+\frac{b\,c\,d\,(1+\text{Log}[a+b\,x])}{(b\,c-a\,d)^3\,(a\,b+b^2\,x)}-\frac{c\,(1+2\,\text{Log}[a+b\,x])}{4\,(b\,c-a\,d)^2\,(a+b\,x)^2}-\right.$$

$$\left.\frac{a\,(1+3\,\text{Log}[a+b\,x])}{9\,b\,(-b\,c+a\,d)\,(a+b\,x)^3}-\frac{c\,d^2\left(\text{Log}[a+b\,x]\,\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]+\text{PolyLog}\left[2,\,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]\right)}{(b\,c-a\,d)^4}\right)+$$

$$\frac{1}{3\,(b\,c-a\,d)^3}2\,a\,b^2\,c^3\,d\,p\,q\,r^2\left(-\frac{d^3\,\text{Log}[a+b\,x]^2}{2\,(b\,c-a\,d)^4}-\frac{b\,d^2\,(1+\text{Log}[a+b\,x])}{(b\,c-a\,d)^3\,(a\,b+b^2\,x)}+\right.$$

$$\frac{d\,(1+2\,\text{Log}[a+b\,x])}{4\,(b\,c-a\,d)^2\,(a+b\,x)^2}+\frac{1+3\,\text{Log}[a+b\,x]}{9\,(-b\,c+a\,d)\,(a+b\,x)^3}+$$

$$\left.\frac{d^3\left(\text{Log}[a+b\,x]\,\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]+\text{PolyLog}\left[2,\,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]\right)}{(b\,c-a\,d)^4}\right)-\frac{1}{(b\,c-a\,d)^3}$$

$$2\,a^2\,b\,c^2\,d^2\,p\,q\,r^2\left(-\frac{d^3\,\text{Log}[a+b\,x]^2}{2\,(b\,c-a\,d)^4}-\frac{b\,d^2\,(1+\text{Log}[a+b\,x])}{(b\,c-a\,d)^3\,(a\,b+b^2\,x)}+\frac{d\,(1+2\,\text{Log}[a+b\,x])}{4\,(b\,c-a\,d)^2\,(a+b\,x)^2}+\right.$$

$$\frac{1+3\,\text{Log}[a+b\,x]}{9\,(-b\,c+a\,d)\,(a+b\,x)^3}+\frac{d^3\left(\text{Log}[a+b\,x]\,\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]+\text{PolyLog}\left[2,\,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]\right)}{(b\,c-a\,d)^4}\Bigg)+\frac{1}{(b\,c-a\,d)^3}$$

$$2\,a^3\,c\,d^3\,p\,q\,r^2\left(-\frac{d^3\,\text{Log}[a+b\,x]^2}{2\,(b\,c-a\,d)^4}-\frac{b\,d^2\,(1+\text{Log}[a+b\,x])}{(b\,c-a\,d)^3\,(a\,b+b^2\,x)}+\frac{d\,(1+2\,\text{Log}[a+b\,x])}{4\,(b\,c-a\,d)^2\,(a+b\,x)^2}+\right.$$

$$\left.\frac{1+3\,\text{Log}[a+b\,x]}{9\,(-b\,c+a\,d)\,(a+b\,x)^3}+\frac{d^3\left(\text{Log}[a+b\,x]\,\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]+\text{PolyLog}\left[2,\,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]\right)}{(b\,c-a\,d)^4}\right)-$$

$$\frac{1}{3\,b\,(b\,c-a\,d)^3}2\,a^4\,d^4\,p\,q\,r^2\left(-\frac{d^3\,\text{Log}[a+b\,x]^2}{2\,(b\,c-a\,d)^4}-\frac{b\,d^2\,(1+\text{Log}[a+b\,x])}{(b\,c-a\,d)^3\,(a\,b+b^2\,x)}+\frac{d\,(1+2\,\text{Log}[a+b\,x])}{4\,(b\,c-a\,d)^2\,(a+b\,x)^2}+\right.$$

$$\left.\frac{1+3\,\text{Log}[a+b\,x]}{9\,(-b\,c+a\,d)\,(a+b\,x)^3}+\frac{d^3\left(\text{Log}[a+b\,x]\,\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]+\text{PolyLog}\left[2,\,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]\right)}{(b\,c-a\,d)^4}\right)-$$

$$\frac{1}{3\,b\,(b\,c-a\,d)^3}2\,a^4\,d^4\,q^2\,r^2\left(-\frac{d^3\,\text{Log}[a+b\,x]^2}{2\,(b\,c-a\,d)^4}-\frac{b\,d^2\,(1+\text{Log}[a+b\,x])}{(b\,c-a\,d)^3\,(a\,b+b^2\,x)}+\frac{d\,(1+2\,\text{Log}[a+b\,x])}{4\,(b\,c-a\,d)^2\,(a+b\,x)^2}+\right.$$

$$\left.\frac{1+3\,\text{Log}[a+b\,x]}{9\,(-b\,c+a\,d)\,(a+b\,x)^3}+\frac{d^3\left(\text{Log}[a+b\,x]\,\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]+\text{PolyLog}\left[2,\,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]\right)}{(b\,c-a\,d)^4}\right)+$$

$$\frac{1}{(b\,c-a\,d)^3}2\,b^3\,c^4\,p\,r^2\left(-p\,\text{Log}[a+b\,x]-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)$$

$$\left(-\frac{d^3\,\text{Log}[a+b\,x]^2}{2\,(b\,c-a\,d)^4}-\frac{b\,d^2\,(1+\text{Log}[a+b\,x])}{(b\,c-a\,d)^3\,(a\,b+b^2\,x)}+\frac{d\,(1+2\,\text{Log}[a+b\,x])}{4\,(b\,c-a\,d)^2\,(a+b\,x)^2}+\right.$$

$$\left.\frac{1+3\,\text{Log}[a+b\,x]}{9\,(-b\,c+a\,d)\,(a+b\,x)^3}+\frac{d^3\left(\text{Log}[a+b\,x]\,\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]+\text{PolyLog}\left[2,\,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]\right)}{(b\,c-a\,d)^4}\right)-$$

$$\frac{1}{(b\,c-a\,d)^3}6\,a\,b^2\,c^3\,d\,p\,r^2\left(-p\,\text{Log}[a+b\,x]-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)$$

$$\left(-\frac{d^3\,\text{Log}[a+b\,x]^2}{2\,(b\,c-a\,d)^4}-\frac{b\,d^2\,(1+\text{Log}[a+b\,x])}{(b\,c-a\,d)^3\,(a\,b+b^2\,x)}+\frac{d\,(1+2\,\text{Log}[a+b\,x])}{4\,(b\,c-a\,d)^2\,(a+b\,x)^2}+\right.$$

$$\left.\frac{1+3\,\text{Log}[a+b\,x]}{9\,(-b\,c+a\,d)\,(a+b\,x)^3}+\frac{d^3\left(\text{Log}[a+b\,x]\,\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]+\text{PolyLog}\left[2,\,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]\right)}{(b\,c-a\,d)^4}\right)+$$

$$\frac{1}{(b\,c-a\,d)^3}6\,a^2\,b\,c^2\,d^2\,p\,r^2\left(-p\,\text{Log}[a+b\,x]-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)$$

$$\left(-\frac{d^3\,\text{Log}[a+b\,x]^2}{2\,(b\,c-a\,d)^4}-\frac{b\,d^2\,(1+\text{Log}[a+b\,x])}{(b\,c-a\,d)^3\,(a\,b+b^2\,x)}+\frac{d\,(1+2\,\text{Log}[a+b\,x])}{4\,(b\,c-a\,d)^2\,(a+b\,x)^2}+\right.$$

$$\frac{1+3\,\text{Log}[a+b\,x]}{9\,(-b\,c+a\,d)\,(a+b\,x)^3}+\frac{d^3\left(\text{Log}[a+b\,x]\,\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]+\text{PolyLog}\left[2,\,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]\right)}{(b\,c-a\,d)^4}\Bigg)-$$

$$\frac{1}{(b\,c-a\,d)^3}2\,a^3\,c\,d^3\,p\,r^2\,\left(-p\,\text{Log}[a+b\,x]-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)$$

$$\left(-\frac{d^3\,\text{Log}[a+b\,x]^2}{2\,(b\,c-a\,d)^4}-\frac{b\,d^2\,(1+\text{Log}[a+b\,x])}{(b\,c-a\,d)^3\,(a\,b+b^2\,x)}+\frac{d\,(1+2\,\text{Log}[a+b\,x])}{4\,(b\,c-a\,d)^2\,(a+b\,x)^2}+\frac{1+3\,\text{Log}[a+b\,x]}{9\,(-b\,c+a\,d)\,(a+b\,x)^3}+\right.$$

$$\left.\frac{d^3\left(\text{Log}[a+b\,x]\,\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]+\text{PolyLog}\left[2,\,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]\right)}{(b\,c-a\,d)^4}\right)+\frac{1}{(b\,c-a\,d)^3}$$

$$2\,b^3\,c^4\,p\,r\left(-p\,r\,\text{Log}[a+b\,x]-r\,\left(-p\,\text{Log}[a+b\,x]-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)-\right.$$

$$\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\left(r-\frac{r\,\left(-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)}{\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]}\right)+$$

$$\text{Log}\left[e^{r\left(-p\,\text{Log}[a+b\,x]-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)}\,(a+b\,x)^{p\,r}\right.$$

$$\left.\left.\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^{r-\frac{r\left(-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)}{\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]}}\right]\right)$$

$$\left(-\frac{d^3\,\text{Log}[a+b\,x]^2}{2\,(b\,c-a\,d)^4}-\frac{b\,d^2\,(1+\text{Log}[a+b\,x])}{(b\,c-a\,d)^3\,(a\,b+b^2\,x)}+\frac{d\,(1+2\,\text{Log}[a+b\,x])}{4\,(b\,c-a\,d)^2\,(a+b\,x)^2}+\right.$$

$$\left.\frac{1+3\,\text{Log}[a+b\,x]}{9\,(-b\,c+a\,d)\,(a+b\,x)^3}+\frac{d^3\left(\text{Log}[a+b\,x]\,\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]+\text{PolyLog}\left[2,\,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]\right)}{(b\,c-a\,d)^4}\right)-\frac{1}{(b\,c-a\,d)^3}$$

$$6\,a\,b^2\,c^3\,d\,p\,r\left(-p\,r\,\text{Log}[a+b\,x]-r\,\left(-p\,\text{Log}[a+b\,x]-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)-\right.$$

$$\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\left(r-\frac{r\,\left(-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)}{\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]}\right)+$$

$$\text{Log}\left[e^{r\left(-p\,\text{Log}[a+b\,x]-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)}\,(a+b\,x)^{p\,r}\right.$$

$$\left.\left.\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^{r-\frac{r\left(-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)}{\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]}}\right]\right)$$

$$\left(-\frac{d^3\,\text{Log}[a+b\,x]^2}{2\,(b\,c-a\,d)^4}-\frac{b\,d^2\,(1+\text{Log}[a+b\,x])}{(b\,c-a\,d)^3\,(a\,b+b^2\,x)}+\frac{d\,(1+2\,\text{Log}[a+b\,x])}{4\,(b\,c-a\,d)^2\,(a+b\,x)^2}+\right.$$

$$\left.\frac{1+3\,\text{Log}[a+b\,x]}{9\,(-b\,c+a\,d)\,(a+b\,x)^3}+\frac{d^3\left(\text{Log}[a+b\,x]\,\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]+\text{PolyLog}\left[2,\,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]\right)}{(b\,c-a\,d)^4}\right)+\frac{1}{(b\,c-a\,d)^3}$$

$$6\,a^2\,b\,c^2\,d^2\,p\,r\left(-p\,r\,\text{Log}[a+b\,x]-r\,\left(-p\,\text{Log}[a+b\,x]-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)-\right.$$

$$\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\left(r-\frac{r\,\left(-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)}{\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]}\right)+$$

$$\text{Log}\left[e\, e^{r\left(-p\,\text{Log}[a+b\,x]-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)}\,(a+b\,x)^{p\,r}\right.$$
$$\left.\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^{r-\frac{r\left(-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)}{\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]}}\right]\Bigg)$$
$$\left(-\frac{d^3\,\text{Log}[a+b\,x]^2}{2\,(b\,c-a\,d)^4}-\frac{b\,d^2\,(1+\text{Log}[a+b\,x])}{(b\,c-a\,d)^3\,(a\,b+b^2\,x)}+\frac{d\,(1+2\,\text{Log}[a+b\,x])}{4\,(b\,c-a\,d)^2\,(a+b\,x)^2}+\right.$$
$$\left.\frac{1+3\,\text{Log}[a+b\,x]}{9\,(-b\,c+a\,d)\,(a+b\,x)^3}+\frac{d^3\left(\text{Log}[a+b\,x]\,\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]+\text{PolyLog}\left[2,\,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]\right)}{(b\,c-a\,d)^4}\right)-\frac{1}{(b\,c-a\,d)^3}$$
$$2\,a^3\,c\,d^3\,p\,r\left(-p\,r\,\text{Log}[a+b\,x]-r\left(-p\,\text{Log}[a+b\,x]-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)-\right.$$
$$\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\left(r-\frac{r\left(-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)}{\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]}\right)+$$
$$\text{Log}\left[e\, e^{r\left(-p\,\text{Log}[a+b\,x]-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)}\,(a+b\,x)^{p\,r}\right.$$
$$\left.\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^{r-\frac{r\left(-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)}{\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]}}\right]\Bigg)$$
$$\left(-\frac{d^3\,\text{Log}[a+b\,x]^2}{2\,(b\,c-a\,d)^4}-\frac{b\,d^2\,(1+\text{Log}[a+b\,x])}{(b\,c-a\,d)^3\,(a\,b+b^2\,x)}+\frac{d\,(1+2\,\text{Log}[a+b\,x])}{4\,(b\,c-a\,d)^2\,(a+b\,x)^2}+\right.$$
$$\left.\frac{1+3\,\text{Log}[a+b\,x]}{9\,(-b\,c+a\,d)\,(a+b\,x)^3}+\frac{d^3\left(\text{Log}[a+b\,x]\,\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]+\text{PolyLog}\left[2,\,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]\right)}{(b\,c-a\,d)^4}\right)$$

Problem 24: Result more than twice size of optimal antiderivative.

$$\int\frac{\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]^2}{(a+b\,x)^5}\,dx$$

Optimal (type 4, 884 leaves, 32 steps):

$$-\frac{p^2 r^2}{32 b (a+b x)^4}-\frac{7 d p q r^2}{72 b (b c-a d) (a+b x)^3}+\frac{3 d^2 p q r^2}{16 b (b c-a d)^2 (a+b x)^2}-$$
$$\frac{d^2 q^2 r^2}{12 b (b c-a d)^2 (a+b x)^2}-\frac{5 d^3 p q r^2}{8 b (b c-a d)^3 (a+b x)}+\frac{5 d^3 q^2 r^2}{12 b (b c-a d)^3 (a+b x)}-$$
$$\frac{d^4 p q r^2 \text{Log}[a+b x]}{8 b (b c-a d)^4}+\frac{11 d^4 q^2 r^2 \text{Log}[a+b x]}{12 b (b c-a d)^4}+\frac{d^4 p q r^2 \text{Log}[a+b x]^2}{4 b (b c-a d)^4}+\frac{d^4 p q r^2 \text{Log}[c+d x]}{8 b (b c-a d)^4}-$$
$$\frac{11 d^4 q^2 r^2 \text{Log}[c+d x]}{12 b (b c-a d)^4}-\frac{d^4 p q r^2 \text{Log}\left[-\frac{d (a+b x)}{b c-a d}\right] \text{Log}[c+d x]}{2 b (b c-a d)^4}-\frac{d^4 q^2 r^2 \text{Log}[c+d x]^2}{4 b (b c-a d)^4}+$$
$$\frac{d^4 q^2 r^2 \text{Log}[a+b x] \text{Log}\left[\frac{b (c+d x)}{b c-a d}\right]}{2 b (b c-a d)^4}-\frac{p r \text{Log}\left[e (f (a+b x)^p (c+d x)^q)^r\right]}{8 b (a+b x)^4}-$$
$$\frac{d q r \text{Log}\left[e (f (a+b x)^p (c+d x)^q)^r\right]}{6 b (b c-a d) (a+b x)^3}+\frac{d^2 q r \text{Log}\left[e (f (a+b x)^p (c+d x)^q)^r\right]}{4 b (b c-a d)^2 (a+b x)^2}-$$
$$\frac{d^3 q r \text{Log}\left[e (f (a+b x)^p (c+d x)^q)^r\right]}{2 b (b c-a d)^3 (a+b x)}-\frac{d^4 q r \text{Log}[a+b x] \text{Log}\left[e (f (a+b x)^p (c+d x)^q)^r\right]}{2 b (b c-a d)^4}+$$
$$\frac{d^4 q r \text{Log}[c+d x] \text{Log}\left[e (f (a+b x)^p (c+d x)^q)^r\right]}{2 b (b c-a d)^4}-\frac{\text{Log}\left[e (f (a+b x)^p (c+d x)^q)^r\right]^2}{4 b (a+b x)^4}+$$
$$\frac{d^4 q^2 r^2 \text{PolyLog}\left[2,-\frac{d (a+b x)}{b c-a d}\right]}{2 b (b c-a d)^4}-\frac{d^4 p q r^2 \text{PolyLog}\left[2,\frac{b (c+d x)}{b c-a d}\right]}{2 b (b c-a d)^4}$$

Result (type 4, 14 321 leaves):

$$-\frac{p^2 r^2 \left(8 \text{Log}[a+b x]+32 \text{Log}[a+b x]^2+64 \text{Log}[a+b x]^3\right)}{256 b (a+b x)^4 \text{Log}[a+b x]}+$$
$$\left(q^2 r^2 \left(-b^3 c^4+4 a b^2 c^3 d-6 a^2 b c^2 d^2+4 a^3 c d^3+4 a^3 d^4 x+6 a^2 b d^4 x^2+4 a b^2 d^4 x^3+b^3 d^4 x^4\right)\right.$$
$$\left.\text{Log}[c+d x]^2\right) \Big/ \left(4 (-b c+a d)^4 (a+b x)^4\right)-\frac{1}{4 b (a+b x)^4}\left(-p r \text{Log}[a+b x]-\right.$$
$$\text{Log}\left[f (a+b x)^p (c+d x)^q\right]\left(r-\frac{r \left(-q \text{Log}[c+d x]+\text{Log}\left[f (a+b x)^p (c+d x)^q\right]\right)}{\text{Log}\left[f (a+b x)^p (c+d x)^q\right]}\right)+$$
$$\text{Log}\left[e^{r \left(-p \text{Log}[a+b x]-q \text{Log}[c+d x]+\text{Log}\left[f (a+b x)^p (c+d x)^q\right]\right)} (a+b x)^{p r}\right.$$
$$\left.\left.\left(f (a+b x)^p (c+d x)^q\right)^{r-\frac{r \left(-q \text{Log}[c+d x]+\text{Log}\left[f (a+b x)^p (c+d x)^q\right]\right)}{\text{Log}\left[f (a+b x)^p (c+d x)^q\right]}}\right]\right)^2-\frac{1}{48 b (b c-a d)^2 (a+b x)^2}$$
$$d^2 q r\left(-3 p r+4 q r-12 r \left(-p \text{Log}[a+b x]-q \text{Log}[c+d x]+\text{Log}\left[f (a+b x)^p (c+d x)^q\right]\right)-\right.$$
$$12\left(-p r \text{Log}[a+b x]-r \left(-p \text{Log}[a+b x]-q \text{Log}[c+d x]+\text{Log}\left[f (a+b x)^p (c+d x)^q\right]\right)-\right.$$
$$\text{Log}\left[f (a+b x)^p (c+d x)^q\right]\left(r-\frac{r \left(-q \text{Log}[c+d x]+\text{Log}\left[f (a+b x)^p (c+d x)^q\right]\right)}{\text{Log}\left[f (a+b x)^p (c+d x)^q\right]}\right)+$$

$$\left(\text{Log}\left[e\, e^{r\left(-p\,\text{Log}[a+b\,x]-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)}\,(a+b\,x)^{p\,r}\right.\right.$$
$$\left.\left.\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^{r-\frac{r\left(-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)}{\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]}}\right]\right)+\frac{1}{24\,b\,(b\,c-a\,d)^3\,(a+b\,x)}$$
$$d^3\,q\,r\left(-3\,p\,r+10\,q\,r-12\,r\left(-p\,\text{Log}[a+b\,x]-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)-\right.$$
$$12\left(-p\,r\,\text{Log}[a+b\,x]-r\left(-p\,\text{Log}[a+b\,x]-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)-\right.$$
$$\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\left(r-\frac{r\left(-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)}{\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]}\right)+$$
$$\text{Log}\left[e\, e^{r\left(-p\,\text{Log}[a+b\,x]-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)}\,(a+b\,x)^{p\,r}\right.$$
$$\left.\left.\left.\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^{r-\frac{r\left(-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)}{\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]}}\right]\right)\right)+\frac{1}{24\,b\,(b\,c-a\,d)^4}\,d^4\,q\,r\,\text{Log}[a+b\,x]$$
$$\left(-3\,p\,r+22\,q\,r-12\,r\left(-p\,\text{Log}[a+b\,x]-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)-\right.$$
$$12\left(-p\,r\,\text{Log}[a+b\,x]-r\left(-p\,\text{Log}[a+b\,x]-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)-\right.$$
$$\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\left(r-\frac{r\left(-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)}{\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]}\right)+$$
$$\text{Log}\left[e\, e^{r\left(-p\,\text{Log}[a+b\,x]-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)}\,(a+b\,x)^{p\,r}\right.$$
$$\left.\left.\left.\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^{r-\frac{r\left(-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)}{\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]}}\right]\right)\right)-\frac{1}{24\,b\,(b\,c-a\,d)^4}\,d^4\,q\,r\,\text{Log}[c+d\,x]$$
$$\left(-3\,p\,r+22\,q\,r-12\,r\left(-p\,\text{Log}[a+b\,x]-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)-\right.$$
$$12\left(-p\,r\,\text{Log}[a+b\,x]-r\left(-p\,\text{Log}[a+b\,x]-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)-\right.$$
$$\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\left(r-\frac{r\left(-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)}{\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]}\right)+$$
$$\text{Log}\left[e\, e^{r\left(-p\,\text{Log}[a+b\,x]-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)}\,(a+b\,x)^{p\,r}\right.$$
$$\left.\left.\left.\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^{r-\frac{r\left(-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)}{\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]}}\right]\right)\right)-\frac{1}{24\,b\,(b\,c-a\,d)\,(a+b\,x)^3}$$
$$d\,q\,r\left(p\,r+4\,r\left(-p\,\text{Log}[a+b\,x]-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)+\right.$$
$$4\left(-p\,r\,\text{Log}[a+b\,x]-r\left(-p\,\text{Log}[a+b\,x]-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)-\right.$$
$$\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\left(r-\frac{r\left(-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)}{\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]}\right)+$$
$$\text{Log}\left[e\, e^{r\left(-p\,\text{Log}[a+b\,x]-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)}\,(a+b\,x)^{p\,r}\right.$$

$$\left(f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right)^{r-\frac{r\left(-q\,\text{Log}\left[c+d\,x\right]+\text{Log}\left[f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right]\right)}{\text{Log}\left[f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right]}}\Bigg]\Bigg)\Bigg)+$$

$$\text{Log}\left[c+d\,x\right]\left(-\frac{d\,q^2\,r^2}{6\,b\left(b\,c-a\,d\right)\left(a+b\,x\right)^3}+\frac{d^2\,q^2\,r^2}{4\,b\left(b\,c-a\,d\right)^2\left(a+b\,x\right)^2}-\right.$$

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

$$\frac{d^4\,q^2\,r^2\,\text{Log}\left[a+b\,x\right]}{2\,b\left(b\,c-a\,d\right)^4}-\frac{p\,q\,r^2\,\text{Log}\left[a+b\,x\right]}{2\,b\left(a+b\,x\right)^4}-$$

$$\frac{1}{8\,b\left(a+b\,x\right)^4}q\,r\left(p\,r+4\,r\left(-p\,\text{Log}\left[a+b\,x\right]-q\,\text{Log}\left[c+d\,x\right]+\text{Log}\left[f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right]\right)+\right.$$

$$4\left(-p\,r\,\text{Log}\left[a+b\,x\right]-r\left(-p\,\text{Log}\left[a+b\,x\right]-q\,\text{Log}\left[c+d\,x\right]+\text{Log}\left[f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right]\right)-\right.$$

$$\text{Log}\left[f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right]\left(r-\frac{r\left(-q\,\text{Log}\left[c+d\,x\right]+\text{Log}\left[f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right]\right)}{\text{Log}\left[f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right]}\right)+$$

$$\text{Log}\left[e^{r\left(-p\,\text{Log}\left[a+b\,x\right]-q\,\text{Log}\left[c+d\,x\right]+\text{Log}\left[f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right]\right)}\left(a+b\,x\right)^{p\,r}\right.$$

$$\left.\left.\left.\left.\left(f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right)^{r-\frac{r\left(-q\,\text{Log}\left[c+d\,x\right]+\text{Log}\left[f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right]\right)}{\text{Log}\left[f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right]}}\Bigg]\right)\right)\right)+\frac{1}{2\left(b\,c-a\,d\right)^4}$$

$$5\,a\,b^3\,d^5\,q^2\,r^2\left(\frac{c^4\,\text{Log}\left[a+b\,x\right]^2}{2\left(b\,c-a\,d\right)^5}+\frac{\left(4\,a\,b^3\,c^3-6\,a^2\,b^2\,c^2\,d+4\,a^3\,b\,c\,d^2-a^4\,d^3\right)\left(1+\text{Log}\left[a+b\,x\right]\right)}{b^3\left(b\,c-a\,d\right)^4\left(a\,b+b^2\,x\right)}-\right.$$

$$\frac{\left(6\,a^2\,b^2\,c^2-8\,a^3\,b\,c\,d+3\,a^4\,d^2\right)\left(1+2\,\text{Log}\left[a+b\,x\right]\right)}{4\,b^4\left(b\,c-a\,d\right)^3\left(a+b\,x\right)^2}+$$

$$\frac{\left(4\,a^3\,b\,c-3\,a^4\,d\right)\left(1+3\,\text{Log}\left[a+b\,x\right]\right)}{9\,b^4\left(b\,c-a\,d\right)^2\left(a+b\,x\right)^3}-$$

$$\frac{a^4\left(1+4\,\text{Log}\left[a+b\,x\right]\right)}{16\,b^4\left(b\,c-a\,d\right)\left(a+b\,x\right)^4}-$$

$$\left.\frac{c^4\left(\text{Log}\left[a+b\,x\right]\,\text{Log}\left[\frac{b\left(c+d\,x\right)}{b\,c-a\,d}\right]+\text{PolyLog}\left[2,\,\frac{d\left(a+b\,x\right)}{-b\,c+a\,d}\right]\right)}{\left(b\,c-a\,d\right)^5}\right)+\frac{1}{2\left(b\,c-a\,d\right)^4}$$

$$b^4\,d^5\,q^2\,r^2\left(-\frac{1}{2\,b^5\left(b\,c-a\,d\right)^5}\left(5\,a\,b^4\,c^4-10\,a^2\,b^3\,c^3\,d+10\,a^3\,b^2\,c^2\,d^2-5\,a^4\,b\,c\,d^3+a^5\,d^4\right)\text{Log}\left[a+b\,x\right]^2-\right.$$

$$\frac{\left(10\,a^2\,b^3\,c^3-20\,a^3\,b^2\,c^2\,d+15\,a^4\,b\,c\,d^2-4\,a^5\,d^3\right)\left(1+\text{Log}\left[a+b\,x\right]\right)}{b^4\left(b\,c-a\,d\right)^4\left(a\,b+b^2\,x\right)}+$$

$$\frac{\left(10\,a^3\,b^2\,c^2-15\,a^4\,b\,c\,d+6\,a^5\,d^2\right)\left(1+2\,\text{Log}\left[a+b\,x\right]\right)}{4\,b^5\left(b\,c-a\,d\right)^3\left(a+b\,x\right)^2}-$$

$$\frac{\left(5\,a^4\,b\,c-4\,a^5\,d\right)\left(1+3\,\text{Log}\left[a+b\,x\right]\right)}{9\,b^5\left(b\,c-a\,d\right)^2\left(a+b\,x\right)^3}+\frac{a^5\left(1+4\,\text{Log}\left[a+b\,x\right]\right)}{16\,b^5\left(b\,c-a\,d\right)\left(a+b\,x\right)^4}+$$

$$\frac{c^5\left(\text{Log}[a+b x]\ \text{Log}\left[\frac{b(c+d x)}{b c-a d}\right]+\text{PolyLog}\left[2,\ \frac{d(a+b x)}{-b c+a d}\right]\right)}{d\left(b c-a d\right)^5}\Bigg)+$$

$$\frac{1}{\left(b c-a d\right)^4}5 a^2 b^2 d^5 q^2 r^2\left(-\frac{c^3 d\,\text{Log}[a+b x]^2}{2\left(b c-a d\right)^5}-\frac{b c^3\left(1+\text{Log}[a+b x]\right)}{\left(b c-a d\right)^4\left(a b+b^2 x\right)}+\right.$$

$$\frac{\left(3 a b^2 c^2-3 a^2 b c d+a^3 d^2\right)\left(1+2\,\text{Log}[a+b x]\right)}{4 b^3\left(b c-a d\right)^3\left(a+b x\right)^2}-$$

$$\frac{\left(3 a^2 b c-2 a^3 d\right)\left(1+3\,\text{Log}[a+b x]\right)}{9 b^3\left(b c-a d\right)^2\left(a+b x\right)^3}+\frac{a^3\left(1+4\,\text{Log}[a+b x]\right)}{16 b^3\left(b c-a d\right)\left(a+b x\right)^4}+$$

$$\left.\frac{c^3 d\left(\text{Log}[a+b x]\ \text{Log}\left[\frac{b(c+d x)}{b c-a d}\right]+\text{PolyLog}\left[2,\ \frac{d(a+b x)}{-b c+a d}\right]\right)}{\left(b c-a d\right)^5}\right)+\frac{1}{\left(b c-a d\right)^4}$$

$$5 a^3 b d^5 q^2 r^2\left(\frac{c^2 d^2\,\text{Log}[a+b x]^2}{2\left(b c-a d\right)^5}+\frac{b c^2 d\left(1+\text{Log}[a+b x]\right)}{\left(b c-a d\right)^4\left(a b+b^2 x\right)}-\frac{c^2\left(1+2\,\text{Log}[a+b x]\right)}{4\left(b c-a d\right)^3\left(a+b x\right)^2}+\right.$$

$$\frac{\left(2 a b c-a^2 d\right)\left(1+3\,\text{Log}[a+b x]\right)}{9 b^2\left(b c-a d\right)^2\left(a+b x\right)^3}-\frac{a^2\left(1+4\,\text{Log}[a+b x]\right)}{16 b^2\left(b c-a d\right)\left(a+b x\right)^4}-$$

$$\left.\frac{c^2 d^2\left(\text{Log}[a+b x]\ \text{Log}\left[\frac{b(c+d x)}{b c-a d}\right]+\text{PolyLog}\left[2,\ \frac{d(a+b x)}{-b c+a d}\right]\right)}{\left(b c-a d\right)^5}\right)+$$

$$\frac{1}{2\left(b c-a d\right)^4}b^4 c^4 d p q r^2\left(-\frac{c d^3\,\text{Log}[a+b x]^2}{2\left(b c-a d\right)^5}-\frac{b c d^2\left(1+\text{Log}[a+b x]\right)}{\left(b c-a d\right)^4\left(a b+b^2 x\right)}+\right.$$

$$\frac{c d\left(1+2\,\text{Log}[a+b x]\right)}{4\left(b c-a d\right)^3\left(a+b x\right)^2}-\frac{c\left(1+3\,\text{Log}[a+b x]\right)}{9\left(b c-a d\right)^2\left(a+b x\right)^3}-\frac{a\left(1+4\,\text{Log}[a+b x]\right)}{16 b\left(-b c+a d\right)\left(a+b x\right)^4}+$$

$$\left.\frac{c d^3\left(\text{Log}[a+b x]\ \text{Log}\left[\frac{b(c+d x)}{b c-a d}\right]+\text{PolyLog}\left[2,\ \frac{d(a+b x)}{-b c+a d}\right]\right)}{\left(b c-a d\right)^5}\right)-$$

$$\frac{1}{\left(b c-a d\right)^4}2 a b^3 c^3 d^2 p q r^2\left(-\frac{c d^3\,\text{Log}[a+b x]^2}{2\left(b c-a d\right)^5}-\frac{b c d^2\left(1+\text{Log}[a+b x]\right)}{\left(b c-a d\right)^4\left(a b+b^2 x\right)}+\right.$$

$$\frac{c d\left(1+2\,\text{Log}[a+b x]\right)}{4\left(b c-a d\right)^3\left(a+b x\right)^2}-\frac{c\left(1+3\,\text{Log}[a+b x]\right)}{9\left(b c-a d\right)^2\left(a+b x\right)^3}-\frac{a\left(1+4\,\text{Log}[a+b x]\right)}{16 b\left(-b c+a d\right)\left(a+b x\right)^4}+$$

$$\left.\frac{c d^3\left(\text{Log}[a+b x]\ \text{Log}\left[\frac{b(c+d x)}{b c-a d}\right]+\text{PolyLog}\left[2,\ \frac{d(a+b x)}{-b c+a d}\right]\right)}{\left(b c-a d\right)^5}\right)+$$

$$\frac{1}{\left(b c-a d\right)^4}3 a^2 b^2 c^2 d^3 p q r^2\left(-\frac{c d^3\,\text{Log}[a+b x]^2}{2\left(b c-a d\right)^5}-\frac{b c d^2\left(1+\text{Log}[a+b x]\right)}{\left(b c-a d\right)^4\left(a b+b^2 x\right)}+\right.$$

$$\frac{c d\left(1+2\,\text{Log}[a+b x]\right)}{4\left(b c-a d\right)^3\left(a+b x\right)^2}-\frac{c\left(1+3\,\text{Log}[a+b x]\right)}{9\left(b c-a d\right)^2\left(a+b x\right)^3}-\frac{a\left(1+4\,\text{Log}[a+b x]\right)}{16 b\left(-b c+a d\right)\left(a+b x\right)^4}+$$

$$\frac{c\,d^3\left(\text{Log}[a+b\,x]\,\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]+\text{PolyLog}\left[2,\,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]\right)}{(b\,c-a\,d)^5}\Bigg)-$$

$$\frac{1}{(b\,c-a\,d)^4}2\,a^3\,b\,c\,d^4\,p\,q\,r^2\left(-\frac{c\,d^3\,\text{Log}[a+b\,x]^2}{2\,(b\,c-a\,d)^5}-\frac{b\,c\,d^2\,(1+\text{Log}[a+b\,x])}{(b\,c-a\,d)^4\,(a\,b+b^2\,x)}+\right.$$

$$\frac{c\,d\,(1+2\,\text{Log}[a+b\,x])}{4\,(b\,c-a\,d)^3\,(a+b\,x)^2}-\frac{c\,(1+3\,\text{Log}[a+b\,x])}{9\,(b\,c-a\,d)^2\,(a+b\,x)^3}-\frac{a\,(1+4\,\text{Log}[a+b\,x])}{16\,b\,(-b\,c+a\,d)\,(a+b\,x)^4}+$$

$$\left.\frac{c\,d^3\left(\text{Log}[a+b\,x]\,\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]+\text{PolyLog}\left[2,\,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]\right)}{(b\,c-a\,d)^5}\right)+\frac{1}{2\,(b\,c-a\,d)^4}$$

$$a^4\,d^5\,p\,q\,r^2\left(-\frac{c\,d^3\,\text{Log}[a+b\,x]^2}{2\,(b\,c-a\,d)^5}-\frac{b\,c\,d^2\,(1+\text{Log}[a+b\,x])}{(b\,c-a\,d)^4\,(a\,b+b^2\,x)}+\frac{c\,d\,(1+2\,\text{Log}[a+b\,x])}{4\,(b\,c-a\,d)^3\,(a+b\,x)^2}-\right.$$

$$\frac{c\,(1+3\,\text{Log}[a+b\,x])}{9\,(b\,c-a\,d)^2\,(a+b\,x)^3}-\frac{a\,(1+4\,\text{Log}[a+b\,x])}{16\,b\,(-b\,c+a\,d)\,(a+b\,x)^4}+$$

$$\left.\frac{c\,d^3\left(\text{Log}[a+b\,x]\,\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]+\text{PolyLog}\left[2,\,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]\right)}{(b\,c-a\,d)^5}\right)+$$

$$\frac{1}{2\,(b\,c-a\,d)^4}5\,a^4\,d^5\,q^2\,r^2\left(-\frac{c\,d^3\,\text{Log}[a+b\,x]^2}{2\,(b\,c-a\,d)^5}-\frac{b\,c\,d^2\,(1+\text{Log}[a+b\,x])}{(b\,c-a\,d)^4\,(a\,b+b^2\,x)}+\right.$$

$$\frac{c\,d\,(1+2\,\text{Log}[a+b\,x])}{4\,(b\,c-a\,d)^3\,(a+b\,x)^2}-\frac{c\,(1+3\,\text{Log}[a+b\,x])}{9\,(b\,c-a\,d)^2\,(a+b\,x)^3}-\frac{a\,(1+4\,\text{Log}[a+b\,x])}{16\,b\,(-b\,c+a\,d)\,(a+b\,x)^4}+$$

$$\left.\frac{c\,d^3\left(\text{Log}[a+b\,x]\,\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]+\text{PolyLog}\left[2,\,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]\right)}{(b\,c-a\,d)^5}\right)+\frac{1}{(b\,c-a\,d)^4}$$

$$2\,b^4\,c^4\,d\,p\,r^2\left(-p\,\text{Log}[a+b\,x]-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)$$

$$\left(-\frac{c\,d^3\,\text{Log}[a+b\,x]^2}{2\,(b\,c-a\,d)^5}-\frac{b\,c\,d^2\,(1+\text{Log}[a+b\,x])}{(b\,c-a\,d)^4\,(a\,b+b^2\,x)}+\frac{c\,d\,(1+2\,\text{Log}[a+b\,x])}{4\,(b\,c-a\,d)^3\,(a+b\,x)^2}-\right.$$

$$\frac{c\,(1+3\,\text{Log}[a+b\,x])}{9\,(b\,c-a\,d)^2\,(a+b\,x)^3}-\frac{a\,(1+4\,\text{Log}[a+b\,x])}{16\,b\,(-b\,c+a\,d)\,(a+b\,x)^4}+$$

$$\left.\frac{c\,d^3\left(\text{Log}[a+b\,x]\,\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]+\text{PolyLog}\left[2,\,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]\right)}{(b\,c-a\,d)^5}\right)-\frac{1}{(b\,c-a\,d)^4}$$

$$8\,a\,b^3\,c^3\,d^2\,p\,r^2\left(-p\,\text{Log}[a+b\,x]-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)$$

$$\left(-\frac{c\,d^3\,\text{Log}[a+b\,x]^2}{2\,(b\,c-a\,d)^5}-\frac{b\,c\,d^2\,(1+\text{Log}[a+b\,x])}{(b\,c-a\,d)^4\,(a\,b+b^2\,x)}+\frac{c\,d\,(1+2\,\text{Log}[a+b\,x])}{4\,(b\,c-a\,d)^3\,(a+b\,x)^2}-\right.$$

$$\frac{c\,(1+3\,\text{Log}[a+b\,x])}{9\,(b\,c-a\,d)^2\,(a+b\,x)^3}-\frac{a\,(1+4\,\text{Log}[a+b\,x])}{16\,b\,(-b\,c+a\,d)\,(a+b\,x)^4}+$$

$$\frac{c\,d^3\left(\text{Log}[a+b\,x]\,\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]+\text{PolyLog}\left[2,\,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]\right)}{(b\,c-a\,d)^5}\Bigg)+\frac{1}{(b\,c-a\,d)^4}$$

$$12\,a^2\,b^2\,c^2\,d^3\,p\,r^2\left(-p\,\text{Log}[a+b\,x]-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)$$

$$\left(-\frac{c\,d^3\,\text{Log}[a+b\,x]^2}{2\,(b\,c-a\,d)^5}-\frac{b\,c\,d^2\,(1+\text{Log}[a+b\,x])}{(b\,c-a\,d)^4\,(a\,b+b^2\,x)}+\frac{c\,d\,(1+2\,\text{Log}[a+b\,x])}{4\,(b\,c-a\,d)^3\,(a+b\,x)^2}-\frac{c\,(1+3\,\text{Log}[a+b\,x])}{9\,(b\,c-a\,d)^2\,(a+b\,x)^3}-\right.$$

$$\left.\frac{a\,(1+4\,\text{Log}[a+b\,x])}{16\,b\,(-b\,c+a\,d)\,(a+b\,x)^4}+\frac{c\,d^3\left(\text{Log}[a+b\,x]\,\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]+\text{PolyLog}\left[2,\,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]\right)}{(b\,c-a\,d)^5}\right)-$$

$$\frac{1}{(b\,c-a\,d)^4}8\,a^3\,b\,c\,d^4\,p\,r^2\left(-p\,\text{Log}[a+b\,x]-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)$$

$$\left(-\frac{c\,d^3\,\text{Log}[a+b\,x]^2}{2\,(b\,c-a\,d)^5}-\frac{b\,c\,d^2\,(1+\text{Log}[a+b\,x])}{(b\,c-a\,d)^4\,(a\,b+b^2\,x)}+\frac{c\,d\,(1+2\,\text{Log}[a+b\,x])}{4\,(b\,c-a\,d)^3\,(a+b\,x)^2}-\right.$$

$$\left.\frac{c\,(1+3\,\text{Log}[a+b\,x])}{9\,(b\,c-a\,d)^2\,(a+b\,x)^3}-\frac{a\,(1+4\,\text{Log}[a+b\,x])}{16\,b\,(-b\,c+a\,d)\,(a+b\,x)^4}+\frac{c\,d^3\left(\text{Log}[a+b\,x]\,\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]+\text{PolyLog}\left[2,\,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]\right)}{(b\,c-a\,d)^5}\right)+$$

$$\frac{1}{(b\,c-a\,d)^4}2\,a^4\,d^5\,p\,r^2\left(-p\,\text{Log}[a+b\,x]-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)$$

$$\left(-\frac{c\,d^3\,\text{Log}[a+b\,x]^2}{2\,(b\,c-a\,d)^5}-\frac{b\,c\,d^2\,(1+\text{Log}[a+b\,x])}{(b\,c-a\,d)^4\,(a\,b+b^2\,x)}+\frac{c\,d\,(1+2\,\text{Log}[a+b\,x])}{4\,(b\,c-a\,d)^3\,(a+b\,x)^2}-\right.$$

$$\left.\frac{c\,(1+3\,\text{Log}[a+b\,x])}{9\,(b\,c-a\,d)^2\,(a+b\,x)^3}-\frac{a\,(1+4\,\text{Log}[a+b\,x])}{16\,b\,(-b\,c+a\,d)\,(a+b\,x)^4}+\right.$$

$$\left.\frac{c\,d^3\left(\text{Log}[a+b\,x]\,\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]+\text{PolyLog}\left[2,\,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]\right)}{(b\,c-a\,d)^5}\right)+\frac{1}{(b\,c-a\,d)^4}$$

$$2\,b^4\,c^4\,d\,p\,r\left(-p\,r\,\text{Log}[a+b\,x]-r\left(-p\,\text{Log}[a+b\,x]-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)-\right.$$

$$\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\left(r-\frac{r\left(-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)}{\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]}\right)+$$

$$\text{Log}\left[e\,e^{r\left(-p\,\text{Log}[a+b\,x]-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)}\,(a+b\,x)^{p\,r}\right.$$

$$\left.\left.\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^{r-\frac{r\left(-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)}{\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]}}\right]\right)$$

$$\left(-\frac{c\,d^3\,\text{Log}[a+b\,x]^2}{2\,(b\,c-a\,d)^5}-\frac{b\,c\,d^2\,(1+\text{Log}[a+b\,x])}{(b\,c-a\,d)^4\,(a\,b+b^2\,x)}+\frac{c\,d\,(1+2\,\text{Log}[a+b\,x])}{4\,(b\,c-a\,d)^3\,(a+b\,x)^2}-\right.$$

$$\left.\frac{c\,(1+3\,\text{Log}[a+b\,x])}{9\,(b\,c-a\,d)^2\,(a+b\,x)^3}-\frac{a\,(1+4\,\text{Log}[a+b\,x])}{16\,b\,(-b\,c+a\,d)\,(a+b\,x)^4}+\right.$$

$$\frac{c\,d^3\left(\text{Log}[a+b\,x]\,\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]+\text{PolyLog}\left[2,\,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]\right)}{(b\,c-a\,d)^5}\Bigg)-\frac{1}{(b\,c-a\,d)^4}$$

$$8\,a\,b^3\,c^3\,d^2\,p\,r\left(-p\,r\,\text{Log}[a+b\,x]-r\left(-p\,\text{Log}[a+b\,x]-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)-\right.$$

$$\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\left(r-\frac{r\left(-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)}{\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]}\right)+$$

$$\text{Log}\left[e^{r\left(-p\,\text{Log}[a+b\,x]-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)}\,(a+b\,x)^{p\,r}\right.$$

$$\left.\left.\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^{r-\frac{r\left(-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)}{\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]}}\right]\right)$$

$$\left(-\frac{c\,d^3\,\text{Log}[a+b\,x]^2}{2\,(b\,c-a\,d)^5}-\frac{b\,c\,d^2\,(1+\text{Log}[a+b\,x])}{(b\,c-a\,d)^4\,(a\,b+b^2\,x)}+\frac{c\,d\,(1+2\,\text{Log}[a+b\,x])}{4\,(b\,c-a\,d)^3\,(a+b\,x)^2}-\right.$$

$$\frac{c\,(1+3\,\text{Log}[a+b\,x])}{9\,(b\,c-a\,d)^2\,(a+b\,x)^3}-\frac{a\,(1+4\,\text{Log}[a+b\,x])}{16\,b\,(-b\,c+a\,d)\,(a+b\,x)^4}+$$

$$\left.\frac{c\,d^3\left(\text{Log}[a+b\,x]\,\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]+\text{PolyLog}\left[2,\,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]\right)}{(b\,c-a\,d)^5}\right)+\frac{1}{(b\,c-a\,d)^4}\,12\,a^2\,b^2\,c^2\,d^3\,p\,r$$

$$\left(-p\,r\,\text{Log}[a+b\,x]-r\left(-p\,\text{Log}[a+b\,x]-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)-\right.$$

$$\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\left(r-\frac{r\left(-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)}{\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]}\right)+$$

$$\text{Log}\left[e^{r\left(-p\,\text{Log}[a+b\,x]-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)}\,(a+b\,x)^{p\,r}\right.$$

$$\left.\left.\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^{r-\frac{r\left(-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)}{\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]}}\right]\right)$$

$$\left(-\frac{c\,d^3\,\text{Log}[a+b\,x]^2}{2\,(b\,c-a\,d)^5}-\frac{b\,c\,d^2\,(1+\text{Log}[a+b\,x])}{(b\,c-a\,d)^4\,(a\,b+b^2\,x)}+\frac{c\,d\,(1+2\,\text{Log}[a+b\,x])}{4\,(b\,c-a\,d)^3\,(a+b\,x)^2}-\right.$$

$$\frac{c\,(1+3\,\text{Log}[a+b\,x])}{9\,(b\,c-a\,d)^2\,(a+b\,x)^3}-\frac{a\,(1+4\,\text{Log}[a+b\,x])}{16\,b\,(-b\,c+a\,d)\,(a+b\,x)^4}+$$

$$\left.\frac{c\,d^3\left(\text{Log}[a+b\,x]\,\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]+\text{PolyLog}\left[2,\,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]\right)}{(b\,c-a\,d)^5}\right)-\frac{1}{(b\,c-a\,d)^4}$$

$$8\,a^3\,b\,c\,d^4\,p\,r\left(-p\,r\,\text{Log}[a+b\,x]-r\left(-p\,\text{Log}[a+b\,x]-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)-\right.$$

$$\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\left(r-\frac{r\left(-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)}{\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]}\right)+$$

$$\text{Log}\left[e^{r\left(-p\,\text{Log}[a+b\,x]-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)}\,(a+b\,x)^{p\,r}\right.$$

$$\left.\left.\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^{r-\frac{r\left(-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)}{\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]}}\right]\right)$$

$$\left(-\frac{c\,d^3\,\text{Log}[a+b\,x]^2}{2\,(b\,c-a\,d)^5}-\frac{b\,c\,d^2\,(1+\text{Log}[a+b\,x])}{(b\,c-a\,d)^4\,(a\,b+b^2\,x)}+\frac{c\,d\,(1+2\,\text{Log}[a+b\,x])}{4\,(b\,c-a\,d)^3\,(a+b\,x)^2}-\frac{c\,(1+3\,\text{Log}[a+b\,x])}{9\,(b\,c-a\,d)^2\,(a+b\,x)^3}-\frac{a\,(1+4\,\text{Log}[a+b\,x])}{16\,b\,(-b\,c+a\,d)\,(a+b\,x)^4}+\frac{c\,d^3\left(\text{Log}[a+b\,x]\,\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]+\text{PolyLog}\left[2,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]\right)}{(b\,c-a\,d)^5}\right)+\frac{1}{(b\,c-a\,d)^4}$$

$$2\,a^4\,d^5\,p\,r\left(-p\,r\,\text{Log}[a+b\,x]-r\left(-p\,\text{Log}[a+b\,x]-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)-\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\left(r-\frac{r\left(-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)}{\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]}\right)+\text{Log}\left[e^{r\left(-p\,\text{Log}[a+b\,x]-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)}\,(a+b\,x)^{p\,r}\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^{r-\frac{r\left(-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)}{\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]}}\right]\right)$$

$$\left(-\frac{c\,d^3\,\text{Log}[a+b\,x]^2}{2\,(b\,c-a\,d)^5}-\frac{b\,c\,d^2\,(1+\text{Log}[a+b\,x])}{(b\,c-a\,d)^4\,(a\,b+b^2\,x)}+\frac{c\,d\,(1+2\,\text{Log}[a+b\,x])}{4\,(b\,c-a\,d)^3\,(a+b\,x)^2}-\frac{c\,(1+3\,\text{Log}[a+b\,x])}{9\,(b\,c-a\,d)^2\,(a+b\,x)^3}-\frac{a\,(1+4\,\text{Log}[a+b\,x])}{16\,b\,(-b\,c+a\,d)\,(a+b\,x)^4}+\frac{c\,d^3\left(\text{Log}[a+b\,x]\,\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]+\text{PolyLog}\left[2,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]\right)}{(b\,c-a\,d)^5}\right)+\frac{1}{2\,(b\,c-a\,d)^4}$$

$$a\,b^3\,c^4\,d\,p\,q\,r^2\left(\frac{d^4\,\text{Log}[a+b\,x]^2}{2\,(b\,c-a\,d)^5}+\frac{b\,d^3\,(1+\text{Log}[a+b\,x])}{(b\,c-a\,d)^4\,(a\,b+b^2\,x)}-\frac{d^2\,(1+2\,\text{Log}[a+b\,x])}{4\,(b\,c-a\,d)^3\,(a+b\,x)^2}+\frac{d\,(1+3\,\text{Log}[a+b\,x])}{9\,(b\,c-a\,d)^2\,(a+b\,x)^3}+\frac{1+4\,\text{Log}[a+b\,x]}{16\,(-b\,c+a\,d)\,(a+b\,x)^4}-\frac{d^4\left(\text{Log}[a+b\,x]\,\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]+\text{PolyLog}\left[2,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]\right)}{(b\,c-a\,d)^5}\right)-$$

$$\frac{1}{(b\,c-a\,d)^4}2\,a^2\,b^2\,c^3\,d^2\,p\,q\,r^2\left(\frac{d^4\,\text{Log}[a+b\,x]^2}{2\,(b\,c-a\,d)^5}+\frac{b\,d^3\,(1+\text{Log}[a+b\,x])}{(b\,c-a\,d)^4\,(a\,b+b^2\,x)}-\frac{d^2\,(1+2\,\text{Log}[a+b\,x])}{4\,(b\,c-a\,d)^3\,(a+b\,x)^2}+\frac{d\,(1+3\,\text{Log}[a+b\,x])}{9\,(b\,c-a\,d)^2\,(a+b\,x)^3}+\frac{1+4\,\text{Log}[a+b\,x]}{16\,(-b\,c+a\,d)\,(a+b\,x)^4}-\frac{d^4\left(\text{Log}[a+b\,x]\,\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]+\text{PolyLog}\left[2,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]\right)}{(b\,c-a\,d)^5}\right)+$$

$$\frac{1}{(b\,c-a\,d)^4}3\,a^3\,b\,c^2\,d^3\,p\,q\,r^2\left(\frac{d^4\,\text{Log}[a+b\,x]^2}{2\,(b\,c-a\,d)^5}+\frac{b\,d^3\,(1+\text{Log}[a+b\,x])}{(b\,c-a\,d)^4\,(a\,b+b^2\,x)}-\right.$$

$$\frac{d^2\left(1+2\,\text{Log}[a+b\,x]\right)}{4\left(b\,c-a\,d\right)^3\left(a+b\,x\right)^2}+\frac{d\left(1+3\,\text{Log}[a+b\,x]\right)}{9\left(b\,c-a\,d\right)^2\left(a+b\,x\right)^3}+\frac{1+4\,\text{Log}[a+b\,x]}{16\left(-b\,c+a\,d\right)\left(a+b\,x\right)^4}-\frac{d^4\left(\text{Log}[a+b\,x]\,\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]+\text{PolyLog}\left[2,\,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]\right)}{\left(b\,c-a\,d\right)^5}\Bigg)-\frac{1}{\left(b\,c-a\,d\right)^4}$$

$$2\,a^4\,c\,d^4\,p\,q\,r^2\left(\frac{d^4\,\text{Log}[a+b\,x]^2}{2\left(b\,c-a\,d\right)^5}+\frac{b\,d^3\left(1+\text{Log}[a+b\,x]\right)}{\left(b\,c-a\,d\right)^4\left(a\,b+b^2\,x\right)}-\frac{d^2\left(1+2\,\text{Log}[a+b\,x]\right)}{4\left(b\,c-a\,d\right)^3\left(a+b\,x\right)^2}+\frac{d\left(1+3\,\text{Log}[a+b\,x]\right)}{9\left(b\,c-a\,d\right)^2\left(a+b\,x\right)^3}+\frac{1+4\,\text{Log}[a+b\,x]}{16\left(-b\,c+a\,d\right)\left(a+b\,x\right)^4}-\frac{d^4\left(\text{Log}[a+b\,x]\,\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]+\text{PolyLog}\left[2,\,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]\right)}{\left(b\,c-a\,d\right)^5}\Bigg)+\frac{1}{2\,b\left(b\,c-a\,d\right)^4}$$

$$a^5\,d^5\,p\,q\,r^2\left(\frac{d^4\,\text{Log}[a+b\,x]^2}{2\left(b\,c-a\,d\right)^5}+\frac{b\,d^3\left(1+\text{Log}[a+b\,x]\right)}{\left(b\,c-a\,d\right)^4\left(a\,b+b^2\,x\right)}-\frac{d^2\left(1+2\,\text{Log}[a+b\,x]\right)}{4\left(b\,c-a\,d\right)^3\left(a+b\,x\right)^2}+\frac{d\left(1+3\,\text{Log}[a+b\,x]\right)}{9\left(b\,c-a\,d\right)^2\left(a+b\,x\right)^3}+\frac{1+4\,\text{Log}[a+b\,x]}{16\left(-b\,c+a\,d\right)\left(a+b\,x\right)^4}-\frac{d^4\left(\text{Log}[a+b\,x]\,\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]+\text{PolyLog}\left[2,\,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]\right)}{\left(b\,c-a\,d\right)^5}\Bigg)+\frac{1}{2\,b\left(b\,c-a\,d\right)^4}$$

$$a^5\,d^5\,q^2\,r^2\left(\frac{d^4\,\text{Log}[a+b\,x]^2}{2\left(b\,c-a\,d\right)^5}+\frac{b\,d^3\left(1+\text{Log}[a+b\,x]\right)}{\left(b\,c-a\,d\right)^4\left(a\,b+b^2\,x\right)}-\frac{d^2\left(1+2\,\text{Log}[a+b\,x]\right)}{4\left(b\,c-a\,d\right)^3\left(a+b\,x\right)^2}+\frac{d\left(1+3\,\text{Log}[a+b\,x]\right)}{9\left(b\,c-a\,d\right)^2\left(a+b\,x\right)^3}+\frac{1+4\,\text{Log}[a+b\,x]}{16\left(-b\,c+a\,d\right)\left(a+b\,x\right)^4}-\frac{d^4\left(\text{Log}[a+b\,x]\,\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]+\text{PolyLog}\left[2,\,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]\right)}{\left(b\,c-a\,d\right)^5}\Bigg)+\frac{1}{\left(b\,c-a\,d\right)^4}$$

$$2\,b^4\,c^5\,p\,r^2\left(-p\,\text{Log}[a+b\,x]-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\left(a+b\,x\right)^p\left(c+d\,x\right)^q\right]\right)\left(\frac{d^4\,\text{Log}[a+b\,x]^2}{2\left(b\,c-a\,d\right)^5}+\frac{b\,d^3\left(1+\text{Log}[a+b\,x]\right)}{\left(b\,c-a\,d\right)^4\left(a\,b+b^2\,x\right)}-\frac{d^2\left(1+2\,\text{Log}[a+b\,x]\right)}{4\left(b\,c-a\,d\right)^3\left(a+b\,x\right)^2}+\frac{d\left(1+3\,\text{Log}[a+b\,x]\right)}{9\left(b\,c-a\,d\right)^2\left(a+b\,x\right)^3}+\frac{1+4\,\text{Log}[a+b\,x]}{16\left(-b\,c+a\,d\right)\left(a+b\,x\right)^4}-\frac{d^4\left(\text{Log}[a+b\,x]\,\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]+\text{PolyLog}\left[2,\,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]\right)}{\left(b\,c-a\,d\right)^5}\Bigg)-\frac{1}{\left(b\,c-a\,d\right)^4}8\,a\,b^3\,c^4\,d\,p\,r^2\left(-p\,\text{Log}[a+b\,x]-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\left(a+b\,x\right)^p\left(c+d\,x\right)^q\right]\right)\left(\frac{d^4\,\text{Log}[a+b\,x]^2}{2\left(b\,c-a\,d\right)^5}+\frac{b\,d^3\left(1+\text{Log}[a+b\,x]\right)}{\left(b\,c-a\,d\right)^4\left(a\,b+b^2\,x\right)}-\frac{d^2\left(1+2\,\text{Log}[a+b\,x]\right)}{4\left(b\,c-a\,d\right)^3\left(a+b\,x\right)^2}+\frac{d\left(1+3\,\text{Log}[a+b\,x]\right)}{9\left(b\,c-a\,d\right)^2\left(a+b\,x\right)^3}+$$

$$\left(\frac{1+4\,\text{Log}[a+b\,x]}{16\,(-b\,c+a\,d)\,(a+b\,x)^4}-\frac{d^4\left(\text{Log}[a+b\,x]\,\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]+\text{PolyLog}\left[2,\,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]\right)}{(b\,c-a\,d)^5}\right)+$$

$$\frac{1}{(b\,c-a\,d)^4}12\,a^2\,b^2\,c^3\,d^2\,p\,r^2\,\left(-p\,\text{Log}[a+b\,x]-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)$$

$$\left(\frac{d^4\,\text{Log}[a+b\,x]^2}{2\,(b\,c-a\,d)^5}+\frac{b\,d^3\,(1+\text{Log}[a+b\,x])}{(b\,c-a\,d)^4\,(a\,b+b^2\,x)}-\frac{d^2\,(1+2\,\text{Log}[a+b\,x])}{4\,(b\,c-a\,d)^3\,(a+b\,x)^2}+\frac{d\,(1+3\,\text{Log}[a+b\,x])}{9\,(b\,c-a\,d)^2\,(a+b\,x)^3}+\right.$$

$$\left.\frac{1+4\,\text{Log}[a+b\,x]}{16\,(-b\,c+a\,d)\,(a+b\,x)^4}-\frac{d^4\left(\text{Log}[a+b\,x]\,\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]+\text{PolyLog}\left[2,\,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]\right)}{(b\,c-a\,d)^5}\right)-$$

$$\frac{1}{(b\,c-a\,d)^4}8\,a^3\,b\,c^2\,d^3\,p\,r^2\,\left(-p\,\text{Log}[a+b\,x]-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)$$

$$\left(\frac{d^4\,\text{Log}[a+b\,x]^2}{2\,(b\,c-a\,d)^5}+\frac{b\,d^3\,(1+\text{Log}[a+b\,x])}{(b\,c-a\,d)^4\,(a\,b+b^2\,x)}-\frac{d^2\,(1+2\,\text{Log}[a+b\,x])}{4\,(b\,c-a\,d)^3\,(a+b\,x)^2}+\frac{d\,(1+3\,\text{Log}[a+b\,x])}{9\,(b\,c-a\,d)^2\,(a+b\,x)^3}+\right.$$

$$\left.\frac{1+4\,\text{Log}[a+b\,x]}{16\,(-b\,c+a\,d)\,(a+b\,x)^4}-\frac{d^4\left(\text{Log}[a+b\,x]\,\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]+\text{PolyLog}\left[2,\,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]\right)}{(b\,c-a\,d)^5}\right)+$$

$$\frac{1}{(b\,c-a\,d)^4}2\,a^4\,c\,d^4\,p\,r^2\,\left(-p\,\text{Log}[a+b\,x]-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)$$

$$\left(\frac{d^4\,\text{Log}[a+b\,x]^2}{2\,(b\,c-a\,d)^5}+\frac{b\,d^3\,(1+\text{Log}[a+b\,x])}{(b\,c-a\,d)^4\,(a\,b+b^2\,x)}-\frac{d^2\,(1+2\,\text{Log}[a+b\,x])}{4\,(b\,c-a\,d)^3\,(a+b\,x)^2}+\frac{d\,(1+3\,\text{Log}[a+b\,x])}{9\,(b\,c-a\,d)^2\,(a+b\,x)^3}+\right.$$

$$\left.\frac{1+4\,\text{Log}[a+b\,x]}{16\,(-b\,c+a\,d)\,(a+b\,x)^4}-\frac{d^4\left(\text{Log}[a+b\,x]\,\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]+\text{PolyLog}\left[2,\,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]\right)}{(b\,c-a\,d)^5}\right)+\frac{1}{(b\,c-a\,d)^4}$$

$$2\,b^4\,c^5\,p\,r\left(-p\,r\,\text{Log}[a+b\,x]-r\,\left(-p\,\text{Log}[a+b\,x]-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)-\right.$$

$$\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\left(r-\frac{r\,\left(-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)}{\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]}\right)+$$

$$\text{Log}\left[e\,e^{r\left(-p\,\text{Log}[a+b\,x]-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)}\,(a+b\,x)^{p\,r}\right.$$

$$\left.\left.\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^{r-\frac{r\left(-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)}{\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]}}\right]\right)$$

$$\left(\frac{d^4\,\text{Log}[a+b\,x]^2}{2\,(b\,c-a\,d)^5}+\frac{b\,d^3\,(1+\text{Log}[a+b\,x])}{(b\,c-a\,d)^4\,(a\,b+b^2\,x)}-\frac{d^2\,(1+2\,\text{Log}[a+b\,x])}{4\,(b\,c-a\,d)^3\,(a+b\,x)^2}+\right.$$

$$\frac{d\,(1+3\,\text{Log}[a+b\,x])}{9\,(b\,c-a\,d)^2\,(a+b\,x)^3}+\frac{1+4\,\text{Log}[a+b\,x]}{16\,(-b\,c+a\,d)\,(a+b\,x)^4}-$$

$$\left.\frac{d^4\left(\text{Log}[a+b\,x]\,\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]+\text{PolyLog}\left[2,\,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]\right)}{(b\,c-a\,d)^5}\right)-\frac{1}{(b\,c-a\,d)^4}$$

$$8\,a\,b^3\,c^4\,d\,p\,r\left(-p\,r\,\text{Log}[a+b\,x]-r\left(-p\,\text{Log}[a+b\,x]-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)-\right.$$
$$\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\left(r-\frac{r\left(-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)}{\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]}\right)+$$
$$\text{Log}\left[e\,e^{r\left(-p\,\text{Log}[a+b\,x]-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)}\,(a+b\,x)^{p\,r}\right.$$
$$\left.\left.\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^{r-\frac{r\left(-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)}{\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]}}\right]\right)$$

$$\left(\frac{d^4\,\text{Log}[a+b\,x]^2}{2\,(b\,c-a\,d)^5}+\frac{b\,d^3\,(1+\text{Log}[a+b\,x])}{(b\,c-a\,d)^4\,(a\,b+b^2\,x)}-\frac{d^2\,(1+2\,\text{Log}[a+b\,x])}{4\,(b\,c-a\,d)^3\,(a+b\,x)^2}+\frac{d\,(1+3\,\text{Log}[a+b\,x])}{9\,(b\,c-a\,d)^2\,(a+b\,x)^3}+\right.$$
$$\left.\frac{1+4\,\text{Log}[a+b\,x]}{16\,(-b\,c+a\,d)\,(a+b\,x)^4}-\frac{d^4\left(\text{Log}[a+b\,x]\,\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]+\text{PolyLog}\left[2,\,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]\right)}{(b\,c-a\,d)^5}\right)+$$

$$\frac{1}{(b\,c-a\,d)^4}12\,a^2\,b^2\,c^3\,d^2\,p\,r\left(-p\,r\,\text{Log}[a+b\,x]-\right.$$
$$r\left(-p\,\text{Log}[a+b\,x]-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)-$$
$$\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\left(r-\frac{r\left(-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)}{\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]}\right)+$$
$$\text{Log}\left[e\,e^{r\left(-p\,\text{Log}[a+b\,x]-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)}\,(a+b\,x)^{p\,r}\right.$$
$$\left.\left.\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^{r-\frac{r\left(-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)}{\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]}}\right]\right)$$

$$\left(\frac{d^4\,\text{Log}[a+b\,x]^2}{2\,(b\,c-a\,d)^5}+\frac{b\,d^3\,(1+\text{Log}[a+b\,x])}{(b\,c-a\,d)^4\,(a\,b+b^2\,x)}-\frac{d^2\,(1+2\,\text{Log}[a+b\,x])}{4\,(b\,c-a\,d)^3\,(a+b\,x)^2}+\right.$$
$$\frac{d\,(1+3\,\text{Log}[a+b\,x])}{9\,(b\,c-a\,d)^2\,(a+b\,x)^3}+\frac{1+4\,\text{Log}[a+b\,x]}{16\,(-b\,c+a\,d)\,(a+b\,x)^4}-$$
$$\left.\frac{d^4\left(\text{Log}[a+b\,x]\,\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]+\text{PolyLog}\left[2,\,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]\right)}{(b\,c-a\,d)^5}\right)-\frac{1}{(b\,c-a\,d)^4}$$

$$8\,a^3\,b\,c^2\,d^3\,p\,r\left(-p\,r\,\text{Log}[a+b\,x]-r\left(-p\,\text{Log}[a+b\,x]-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)-\right.$$
$$\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\left(r-\frac{r\left(-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)}{\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]}\right)+$$
$$\text{Log}\left[e\,e^{r\left(-p\,\text{Log}[a+b\,x]-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)}\,(a+b\,x)^{p\,r}\right.$$
$$\left.\left.\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^{r-\frac{r\left(-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)}{\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]}}\right]\right)$$

$$\left(\frac{d^4\,\text{Log}[a+b\,x]^2}{2\,(b\,c-a\,d)^5}+\frac{b\,d^3\,(1+\text{Log}[a+b\,x])}{(b\,c-a\,d)^4\,(a\,b+b^2\,x)}-\frac{d^2\,(1+2\,\text{Log}[a+b\,x])}{4\,(b\,c-a\,d)^3\,(a+b\,x)^2}+\right.$$

$$\frac{d\left(1+3\,\text{Log}[a+b\,x]\right)}{9\left(b\,c-a\,d\right)^2\left(a+b\,x\right)^3}+\frac{1+4\,\text{Log}[a+b\,x]}{16\left(-b\,c+a\,d\right)\left(a+b\,x\right)^4}-\frac{d^4\left(\text{Log}[a+b\,x]\,\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]+\text{PolyLog}\left[2,\,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]\right)}{\left(b\,c-a\,d\right)^5}\Bigg)+\frac{1}{\left(b\,c-a\,d\right)^4}$$

$$2\,a^4\,c\,d^4\,p\,r\left(-p\,r\,\text{Log}[a+b\,x]-r\left(-p\,\text{Log}[a+b\,x]-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\left(a+b\,x\right)^p\left(c+d\,x\right)^q\right]\right)-\text{Log}\left[f\left(a+b\,x\right)^p\left(c+d\,x\right)^q\right]\left(r-\frac{r\left(-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\left(a+b\,x\right)^p\left(c+d\,x\right)^q\right]\right)}{\text{Log}\left[f\left(a+b\,x\right)^p\left(c+d\,x\right)^q\right]}\right)+\text{Log}\left[e\,e^{r\left(-p\,\text{Log}[a+b\,x]-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\left(a+b\,x\right)^p\left(c+d\,x\right)^q\right]\right)}\left(a+b\,x\right)^{p\,r}\left(f\left(a+b\,x\right)^p\left(c+d\,x\right)^q\right)^{r-\frac{r\left(-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\left(a+b\,x\right)^p\left(c+d\,x\right)^q\right]\right)}{\text{Log}\left[f\left(a+b\,x\right)^p\left(c+d\,x\right)^q\right]}}\right]\right)$$

$$\left(\frac{d^4\,\text{Log}[a+b\,x]^2}{2\left(b\,c-a\,d\right)^5}+\frac{b\,d^3\left(1+\text{Log}[a+b\,x]\right)}{\left(b\,c-a\,d\right)^4\left(a\,b+b^2\,x\right)}-\frac{d^2\left(1+2\,\text{Log}[a+b\,x]\right)}{4\left(b\,c-a\,d\right)^3\left(a+b\,x\right)^2}+\frac{d\left(1+3\,\text{Log}[a+b\,x]\right)}{9\left(b\,c-a\,d\right)^2\left(a+b\,x\right)^3}+\frac{1+4\,\text{Log}[a+b\,x]}{16\left(-b\,c+a\,d\right)\left(a+b\,x\right)^4}-\frac{d^4\left(\text{Log}[a+b\,x]\,\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]+\text{PolyLog}\left[2,\,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]\right)}{\left(b\,c-a\,d\right)^5}\right)$$

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

$$\int\frac{\text{Log}\left[e\left(f\left(a+b\,x\right)^p\left(c+d\,x\right)^q\right)^r\right]^2}{\left(g+h\,x\right)^2}\,dx$$

Optimal (type 4, 832 leaves, 31 steps):

$$\frac{2\,b\,p\,q\,r^2\,\text{Log}\left[-\frac{d\,(a+b\,x)}{b\,c-a\,d}\right]\,\text{Log}[c+d\,x]}{h\,(b\,g-a\,h)}+\frac{2\,d\,p\,q\,r^2\,\text{Log}[a+b\,x]\,\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]}{h\,(d\,g-c\,h)}-\frac{1}{h\,(b\,g-a\,h)}2\,b\,p\,r$$

$$\text{Log}[a+b\,x]\,\left(p\,r\,\text{Log}[a+b\,x]+q\,r\,\text{Log}[c+d\,x]-\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]\right)-\frac{1}{h\,(d\,g-c\,h)}$$

$$2\,d\,q\,r\,\text{Log}[c+d\,x]\,\left(p\,r\,\text{Log}[a+b\,x]+q\,r\,\text{Log}[c+d\,x]-\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]\right)-$$

$$\frac{\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]^2}{h\,(g+h\,x)}+\frac{1}{h\,(b\,g-a\,h)}2\,b\,p\,r$$

$$\left(p\,r\,\text{Log}[a+b\,x]+q\,r\,\text{Log}[c+d\,x]-\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]\right)\,\text{Log}[g+h\,x]+\frac{1}{h\,(d\,g-c\,h)}$$

$$2\,d\,q\,r\,\left(p\,r\,\text{Log}[a+b\,x]+q\,r\,\text{Log}[c+d\,x]-\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]\right)\,\text{Log}[g+h\,x]-$$

$$\frac{2\,d\,p\,q\,r^2\,\text{Log}[a+b\,x]\,\text{Log}\left[\frac{b\,(g+h\,x)}{b\,g-a\,h}\right]}{h\,(d\,g-c\,h)}-\frac{2\,b\,p\,q\,r^2\,\text{Log}[c+d\,x]\,\text{Log}\left[\frac{d\,(g+h\,x)}{d\,g-c\,h}\right]}{h\,(b\,g-a\,h)}-$$

$$\frac{2\,b\,p^2\,r^2\,\text{Log}[a+b\,x]\,\text{Log}\left[1+\frac{b\,g-a\,h}{h\,(a+b\,x)}\right]}{h\,(b\,g-a\,h)}-\frac{2\,d\,q^2\,r^2\,\text{Log}[c+d\,x]\,\text{Log}\left[1+\frac{d\,g-c\,h}{h\,(c+d\,x)}\right]}{h\,(d\,g-c\,h)}+$$

$$\frac{2\,b\,p^2\,r^2\,\text{PolyLog}\left[2,\,-\frac{b\,g-a\,h}{h\,(a+b\,x)}\right]}{h\,(b\,g-a\,h)}+\frac{2\,d\,p\,q\,r^2\,\text{PolyLog}\left[2,\,-\frac{d\,(a+b\,x)}{b\,c-a\,d}\right]}{h\,(d\,g-c\,h)}-\frac{2\,d\,p\,q\,r^2\,\text{PolyLog}\left[2,\,-\frac{h\,(a+b\,x)}{b\,g-a\,h}\right]}{h\,(d\,g-c\,h)}+$$

$$\frac{2\,d\,q^2\,r^2\,\text{PolyLog}\left[2,\,-\frac{d\,g-c\,h}{h\,(c+d\,x)}\right]}{h\,(d\,g-c\,h)}+\frac{2\,b\,p\,q\,r^2\,\text{PolyLog}\left[2,\,\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]}{h\,(b\,g-a\,h)}-\frac{2\,b\,p\,q\,r^2\,\text{PolyLog}\left[2,\,-\frac{h\,(c+d\,x)}{d\,g-c\,h}\right]}{h\,(b\,g-a\,h)}$$

Result (type 4, 2930 leaves) :

$$\frac{1}{h\,(-b\,g+a\,h)\,(-d\,g+c\,h)\,(g+h\,x)}$$

$$\Bigg(-b\,d\,g^2\,p^2\,r^2\,\text{Log}[a+b\,x]^2+b\,c\,g\,h\,p^2\,r^2\,\text{Log}[a+b\,x]^2-b\,d\,g\,h\,p^2\,r^2\,x\,\text{Log}[a+b\,x]^2+$$

$$b\,c\,h^2\,p^2\,r^2\,x\,\text{Log}[a+b\,x]^2-2\,b\,d\,g^2\,p\,q\,r^2\,\text{Log}[a+b\,x]\,\text{Log}[c+d\,x]+$$

$$2\,a\,d\,g\,h\,p\,q\,r^2\,\text{Log}[a+b\,x]\,\text{Log}[c+d\,x]-2\,b\,d\,g\,h\,p\,q\,r^2\,x\,\text{Log}[a+b\,x]\,\text{Log}[c+d\,x]+$$

$$2\,a\,d\,h^2\,p\,q\,r^2\,x\,\text{Log}[a+b\,x]\,\text{Log}[c+d\,x]-b\,d\,g^2\,q^2\,r^2\,\text{Log}[c+d\,x]^2+$$

$$a\,d\,g\,h\,q^2\,r^2\,\text{Log}[c+d\,x]^2-b\,d\,g\,h\,q^2\,r^2\,x\,\text{Log}[c+d\,x]^2+a\,d\,h^2\,q^2\,r^2\,x\,\text{Log}[c+d\,x]^2+$$

$$2\,b\,c\,g\,h\,p\,q\,r^2\,\text{Log}[a+b\,x]\,\text{Log}\left[\frac{h\,(c+d\,x)}{-d\,g+c\,h}\right]-2\,a\,d\,g\,h\,p\,q\,r^2\,\text{Log}[a+b\,x]\,\text{Log}\left[\frac{h\,(c+d\,x)}{-d\,g+c\,h}\right]+$$

$$2\,b\,c\,h^2\,p\,q\,r^2\,x\,\text{Log}[a+b\,x]\,\text{Log}\left[\frac{h\,(c+d\,x)}{-d\,g+c\,h}\right]-2\,a\,d\,h^2\,p\,q\,r^2\,x\,\text{Log}[a+b\,x]\,\text{Log}\left[\frac{h\,(c+d\,x)}{-d\,g+c\,h}\right]-$$

$$b\,c\,g\,h\,p\,q\,r^2\,\text{Log}\left[\frac{h\,(c+d\,x)}{-d\,g+c\,h}\right]^2+a\,d\,g\,h\,p\,q\,r^2\,\text{Log}\left[\frac{h\,(c+d\,x)}{-d\,g+c\,h}\right]^2-b\,c\,h^2\,p\,q\,r^2\,x\,\text{Log}\left[\frac{h\,(c+d\,x)}{-d\,g+c\,h}\right]^2+$$

$$a\,d\,h^2\,p\,q\,r^2\,x\,\text{Log}\left[\frac{h\,(c+d\,x)}{-d\,g+c\,h}\right]^2+2\,b\,c\,g\,h\,p\,q\,r^2\,\text{Log}\left[\frac{-b\,c+a\,d}{d\,(a+b\,x)}\right]\,\text{Log}\left[\frac{(b\,g-a\,h)\,(c+d\,x)}{(d\,g-c\,h)\,(a+b\,x)}\right]-$$

$$2\,a\,d\,g\,h\,p\,q\,r^2\,\text{Log}\left[\frac{-b\,c+a\,d}{d\,(a+b\,x)}\right]\,\text{Log}\left[\frac{(b\,g-a\,h)\,(c+d\,x)}{(d\,g-c\,h)\,(a+b\,x)}\right]+$$

$$2\,b\,c\,h^2\,p\,q\,r^2\,x\,\text{Log}\left[\frac{-b\,c+a\,d}{d\,(a+b\,x)}\right]\,\text{Log}\left[\frac{(b\,g-a\,h)\,(c+d\,x)}{(d\,g-c\,h)\,(a+b\,x)}\right]-$$

$$2\,a\,d\,h^2\,p\,q\,r^2\,x\,\text{Log}\left[\frac{-b\,c+a\,d}{d\,(a+b\,x)}\right]\,\text{Log}\left[\frac{(b\,g-a\,h)\,(c+d\,x)}{(d\,g-c\,h)\,(a+b\,x)}\right]+$$

$$2\,b\,c\,g\,h\,p\,q\,r^2\,\text{Log}\left[\frac{h\,(c+d\,x)}{-d\,g+c\,h}\right]\,\text{Log}\left[\frac{(b\,g-a\,h)\,(c+d\,x)}{(d\,g-c\,h)\,(a+b\,x)}\right]-$$

$$2\,a\,d\,g\,h\,p\,q\,r^2\,\text{Log}\left[\frac{h\,(c+d\,x)}{-d\,g+c\,h}\right]\,\text{Log}\left[\frac{(b\,g-a\,h)\,(c+d\,x)}{(d\,g-c\,h)\,(a+b\,x)}\right]+$$

$$2\,b\,c\,h^2\,p\,q\,r^2\,x\,\text{Log}\left[\frac{h\,(c+d\,x)}{-d\,g+c\,h}\right]\,\text{Log}\left[\frac{(b\,g-a\,h)\,(c+d\,x)}{(d\,g-c\,h)\,(a+b\,x)}\right]-$$

$$2\,a\,d\,h^2\,p\,q\,r^2\,x\,\text{Log}\left[\frac{h\,(c+d\,x)}{-d\,g+c\,h}\right]\,\text{Log}\left[\frac{(b\,g-a\,h)\,(c+d\,x)}{(d\,g-c\,h)\,(a+b\,x)}\right]-$$

$$b\,c\,g\,h\,p\,q\,r^2\,\text{Log}\left[\frac{(b\,g-a\,h)\,(c+d\,x)}{(d\,g-c\,h)\,(a+b\,x)}\right]^2+a\,d\,g\,h\,p\,q\,r^2\,\text{Log}\left[\frac{(b\,g-a\,h)\,(c+d\,x)}{(d\,g-c\,h)\,(a+b\,x)}\right]^2-$$

$$b\,c\,h^2\,p\,q\,r^2\,x\,\text{Log}\left[\frac{(b\,g-a\,h)\,(c+d\,x)}{(d\,g-c\,h)\,(a+b\,x)}\right]^2+a\,d\,h^2\,p\,q\,r^2\,x\,\text{Log}\left[\frac{(b\,g-a\,h)\,(c+d\,x)}{(d\,g-c\,h)\,(a+b\,x)}\right]^2+$$

$$2\,b\,d\,g^2\,p\,r\,\text{Log}[a+b\,x]\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]-$$
$$2\,b\,c\,g\,h\,p\,r\,\text{Log}[a+b\,x]\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]+$$
$$2\,b\,d\,g\,h\,p\,r\,x\,\text{Log}[a+b\,x]\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]-$$
$$2\,b\,c\,h^2\,p\,r\,x\,\text{Log}[a+b\,x]\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]+$$
$$2\,b\,d\,g^2\,q\,r\,\text{Log}[c+d\,x]\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]-$$
$$2\,a\,d\,g\,h\,q\,r\,\text{Log}[c+d\,x]\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]+$$
$$2\,b\,d\,g\,h\,q\,r\,x\,\text{Log}[c+d\,x]\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]-$$
$$2\,a\,d\,h^2\,q\,r\,x\,\text{Log}[c+d\,x]\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]-$$
$$b\,d\,g^2\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]^2+b\,c\,g\,h\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]^2+$$
$$a\,d\,g\,h\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]^2-a\,c\,h^2\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]^2-$$

$$2\,b\,d\,g^2\,p\,q\,r^2\,\text{Log}[a+b\,x]\,\text{Log}\left[\frac{b\,(g+h\,x)}{b\,g-a\,h}\right]+2\,a\,d\,g\,h\,p\,q\,r^2\,\text{Log}[a+b\,x]\,\text{Log}\left[\frac{b\,(g+h\,x)}{b\,g-a\,h}\right]-$$

$$2\,b\,d\,g\,h\,p\,q\,r^2\,x\,\text{Log}[a+b\,x]\,\text{Log}\left[\frac{b\,(g+h\,x)}{b\,g-a\,h}\right]+2\,a\,d\,h^2\,p\,q\,r^2\,x\,\text{Log}[a+b\,x]\,\text{Log}\left[\frac{b\,(g+h\,x)}{b\,g-a\,h}\right]+$$

$$2\,b\,d\,g^2\,p\,q\,r^2\,\text{Log}\left[\frac{h\,(c+d\,x)}{-d\,g+c\,h}\right]\,\text{Log}\left[\frac{b\,(g+h\,x)}{b\,g-a\,h}\right]-$$

$$2\,b\,c\,g\,h\,p\,q\,r^2\,\text{Log}\left[\frac{h\,(c+d\,x)}{-d\,g+c\,h}\right]\,\text{Log}\left[\frac{b\,(g+h\,x)}{b\,g-a\,h}\right]+2\,b\,d\,g\,h\,p\,q\,r^2\,x\,\text{Log}\left[\frac{h\,(c+d\,x)}{-d\,g+c\,h}\right]$$
$$\text{Log}\left[\frac{b\,(g+h\,x)}{b\,g-a\,h}\right]-2\,b\,c\,h^2\,p\,q\,r^2\,x\,\text{Log}\left[\frac{h\,(c+d\,x)}{-d\,g+c\,h}\right]\,\text{Log}\left[\frac{b\,(g+h\,x)}{b\,g-a\,h}\right]-$$

$$2\,b\,d\,g^2\,p\,r\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]\,\text{Log}\left[\frac{b\,(g+h\,x)}{b\,g-a\,h}\right]+$$

$$2\,b\,c\,g\,h\,p\,r\,\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]\,\text{Log}\left[\frac{b\,(g+h\,x)}{b\,g-a\,h}\right]-$$

$$2\,b\,d\,g\,h\,p\,r\,x\,\text{Log}\left[e\,\left(f\,\left(a+b\,x\right)^p\,\left(c+d\,x\right)^q\right)^r\right]\,\text{Log}\left[\frac{b\,\left(g+h\,x\right)}{b\,g-a\,h}\right]+$$

$$2\,b\,c\,h^2\,p\,r\,x\,\text{Log}\left[e\,\left(f\,\left(a+b\,x\right)^p\,\left(c+d\,x\right)^q\right)^r\right]\,\text{Log}\left[\frac{b\,\left(g+h\,x\right)}{b\,g-a\,h}\right]+$$

$$2\,b\,d\,g^2\,p\,q\,r^2\,\text{Log}\left[a+b\,x\right]\,\text{Log}\left[\frac{d\,\left(g+h\,x\right)}{d\,g-c\,h}\right]-2\,a\,d\,g\,h\,p\,q\,r^2\,\text{Log}\left[a+b\,x\right]\,\text{Log}\left[\frac{d\,\left(g+h\,x\right)}{d\,g-c\,h}\right]+$$

$$2\,b\,d\,g\,h\,p\,q\,r^2\,x\,\text{Log}\left[a+b\,x\right]\,\text{Log}\left[\frac{d\,\left(g+h\,x\right)}{d\,g-c\,h}\right]-2\,a\,d\,h^2\,p\,q\,r^2\,x\,\text{Log}\left[a+b\,x\right]\,\text{Log}\left[\frac{d\,\left(g+h\,x\right)}{d\,g-c\,h}\right]-$$

$$2\,b\,d\,g^2\,p\,q\,r^2\,\text{Log}\left[\frac{h\,\left(c+d\,x\right)}{-d\,g+c\,h}\right]\,\text{Log}\left[\frac{d\,\left(g+h\,x\right)}{d\,g-c\,h}\right]+$$

$$2\,b\,c\,g\,h\,p\,q\,r^2\,\text{Log}\left[\frac{h\,\left(c+d\,x\right)}{-d\,g+c\,h}\right]\,\text{Log}\left[\frac{d\,\left(g+h\,x\right)}{d\,g-c\,h}\right]-2\,b\,d\,g\,h\,p\,q\,r^2\,x\,\text{Log}\left[\frac{h\,\left(c+d\,x\right)}{-d\,g+c\,h}\right]$$

$$\text{Log}\left[\frac{d\,\left(g+h\,x\right)}{d\,g-c\,h}\right]+2\,b\,c\,h^2\,p\,q\,r^2\,x\,\text{Log}\left[\frac{h\,\left(c+d\,x\right)}{-d\,g+c\,h}\right]\,\text{Log}\left[\frac{d\,\left(g+h\,x\right)}{d\,g-c\,h}\right]-$$

$$2\,b\,d\,g^2\,q\,r\,\text{Log}\left[e\,\left(f\,\left(a+b\,x\right)^p\,\left(c+d\,x\right)^q\right)^r\right]\,\text{Log}\left[\frac{d\,\left(g+h\,x\right)}{d\,g-c\,h}\right]+$$

$$2\,a\,d\,g\,h\,q\,r\,\text{Log}\left[e\,\left(f\,\left(a+b\,x\right)^p\,\left(c+d\,x\right)^q\right)^r\right]\,\text{Log}\left[\frac{d\,\left(g+h\,x\right)}{d\,g-c\,h}\right]-$$

$$2\,b\,d\,g\,h\,q\,r\,x\,\text{Log}\left[e\,\left(f\,\left(a+b\,x\right)^p\,\left(c+d\,x\right)^q\right)^r\right]\,\text{Log}\left[\frac{d\,\left(g+h\,x\right)}{d\,g-c\,h}\right]+$$

$$2\,a\,d\,h^2\,q\,r\,x\,\text{Log}\left[e\,\left(f\,\left(a+b\,x\right)^p\,\left(c+d\,x\right)^q\right)^r\right]\,\text{Log}\left[\frac{d\,\left(g+h\,x\right)}{d\,g-c\,h}\right]+$$

$$2\,p\,\left(b\,c\,h\,p+a\,d\,h\,q-b\,d\,g\,\left(p+q\right)\right)\,r^2\,\left(g+h\,x\right)\,\text{PolyLog}\left[2,\,\frac{h\,\left(a+b\,x\right)}{-b\,g+a\,h}\right]+$$

$$2\,q\,\left(b\,c\,h\,p+a\,d\,h\,q-b\,d\,g\,\left(p+q\right)\right)\,r^2\,\left(g+h\,x\right)\,\text{PolyLog}\left[2,\,\frac{h\,\left(c+d\,x\right)}{-d\,g+c\,h}\right]+$$

$$2\,b\,c\,g\,h\,p\,q\,r^2\,\text{PolyLog}\left[2,\,\frac{b\,\left(c+d\,x\right)}{d\,\left(a+b\,x\right)}\right]-2\,a\,d\,g\,h\,p\,q\,r^2\,\text{PolyLog}\left[2,\,\frac{b\,\left(c+d\,x\right)}{d\,\left(a+b\,x\right)}\right]+$$

$$2\,b\,c\,h^2\,p\,q\,r^2\,x\,\text{PolyLog}\left[2,\,\frac{b\,\left(c+d\,x\right)}{d\,\left(a+b\,x\right)}\right]-2\,a\,d\,h^2\,p\,q\,r^2\,x\,\text{PolyLog}\left[2,\,\frac{b\,\left(c+d\,x\right)}{d\,\left(a+b\,x\right)}\right]\Bigg)$$

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

$$\int\frac{\text{Log}\left[e\,\left(f\,\left(a+b\,x\right)^p\,\left(c+d\,x\right)^q\right)^r\right]^2}{\left(g+h\,x\right)^3}\,\text{d}x$$

Optimal (type 4, 1304 leaves, 43 steps):

$$-\frac{b\,d\,p\,q\,r^2\,\text{Log}[a+b\,x]}{h\,(b\,g-a\,h)\,(d\,g-c\,h)}+\frac{d\,p\,q\,r^2\,\text{Log}[a+b\,x]}{h\,(d\,g-c\,h)\,(g+h\,x)}-\frac{b\,p^2\,r^2\,(a+b\,x)\,\text{Log}[a+b\,x]}{(b\,g-a\,h)^2\,(g+h\,x)}-$$
$$\frac{b\,d\,p\,q\,r^2\,\text{Log}[c+d\,x]}{h\,(b\,g-a\,h)\,(d\,g-c\,h)}+\frac{b\,p\,q\,r^2\,\text{Log}[c+d\,x]}{h\,(b\,g-a\,h)\,(g+h\,x)}-\frac{d\,q^2\,r^2\,(c+d\,x)\,\text{Log}[c+d\,x]}{(d\,g-c\,h)^2\,(g+h\,x)}+$$
$$\frac{b^2\,p\,q\,r^2\,\text{Log}\left[-\frac{d\,(a+b\,x)}{b\,c-a\,d}\right]\text{Log}[c+d\,x]}{h\,(b\,g-a\,h)^2}+\frac{d^2\,p\,q\,r^2\,\text{Log}[a+b\,x]\,\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]}{h\,(d\,g-c\,h)^2}-$$
$$\left(b\,p\,r\left(p\,r\,\text{Log}[a+b\,x]+q\,r\,\text{Log}[c+d\,x]-\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]\right)\right)/$$
$$\left(h\,(b\,g-a\,h)\,(g+h\,x)\right)-$$
$$\left(d\,q\,r\left(p\,r\,\text{Log}[a+b\,x]+q\,r\,\text{Log}[c+d\,x]-\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]\right)\right)/$$
$$\left(h\,(d\,g-c\,h)\,(g+h\,x)\right)-\frac{1}{h\,(b\,g-a\,h)^2}b^2\,p\,r\,\text{Log}[a+b\,x]$$
$$\left(p\,r\,\text{Log}[a+b\,x]+q\,r\,\text{Log}[c+d\,x]-\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]\right)-\frac{1}{h\,(d\,g-c\,h)^2}$$
$$d^2\,q\,r\,\text{Log}[c+d\,x]\,\left(p\,r\,\text{Log}[a+b\,x]+q\,r\,\text{Log}[c+d\,x]-\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]\right)-$$
$$\frac{\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]^2}{2\,h\,(g+h\,x)^2}+\frac{b^2\,p^2\,r^2\,\text{Log}[g+h\,x]}{h\,(b\,g-a\,h)^2}+$$
$$\frac{2\,b\,d\,p\,q\,r^2\,\text{Log}[g+h\,x]}{h\,(b\,g-a\,h)\,(d\,g-c\,h)}+\frac{d^2\,q^2\,r^2\,\text{Log}[g+h\,x]}{h\,(d\,g-c\,h)^2}+\frac{1}{h\,(b\,g-a\,h)^2}$$
$$b^2\,p\,r\left(p\,r\,\text{Log}[a+b\,x]+q\,r\,\text{Log}[c+d\,x]-\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]\right)\text{Log}[g+h\,x]+$$
$$\frac{1}{h\,(d\,g-c\,h)^2}d^2\,q\,r\left(p\,r\,\text{Log}[a+b\,x]+q\,r\,\text{Log}[c+d\,x]-\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]\right)$$
$$\text{Log}[g+h\,x]-\frac{d^2\,p\,q\,r^2\,\text{Log}[a+b\,x]\,\text{Log}\left[\frac{b\,(g+h\,x)}{b\,g-a\,h}\right]}{h\,(d\,g-c\,h)^2}-\frac{b^2\,p\,q\,r^2\,\text{Log}[c+d\,x]\,\text{Log}\left[\frac{d\,(g+h\,x)}{d\,g-c\,h}\right]}{h\,(b\,g-a\,h)^2}-$$
$$\frac{b^2\,p^2\,r^2\,\text{Log}[a+b\,x]\,\text{Log}\left[1+\frac{b\,g-a\,h}{h\,(a+b\,x)}\right]}{h\,(b\,g-a\,h)^2}-\frac{d^2\,q^2\,r^2\,\text{Log}[c+d\,x]\,\text{Log}\left[1+\frac{d\,g-c\,h}{h\,(c+d\,x)}\right]}{h\,(d\,g-c\,h)^2}+$$
$$\frac{b^2\,p^2\,r^2\,\text{PolyLog}\left[2,-\frac{b\,g-a\,h}{h\,(a+b\,x)}\right]}{h\,(b\,g-a\,h)^2}+\frac{d^2\,p\,q\,r^2\,\text{PolyLog}\left[2,-\frac{d\,(a+b\,x)}{b\,c-a\,d}\right]}{h\,(d\,g-c\,h)^2}-\frac{d^2\,p\,q\,r^2\,\text{PolyLog}\left[2,-\frac{h\,(a+b\,x)}{b\,g-a\,h}\right]}{h\,(d\,g-c\,h)^2}+$$
$$\frac{d^2\,q^2\,r^2\,\text{PolyLog}\left[2,-\frac{d\,g-c\,h}{h\,(c+d\,x)}\right]}{h\,(d\,g-c\,h)^2}+\frac{b^2\,p\,q\,r^2\,\text{PolyLog}\left[2,\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]}{h\,(b\,g-a\,h)^2}-\frac{b^2\,p\,q\,r^2\,\text{PolyLog}\left[2,-\frac{h\,(c+d\,x)}{d\,g-c\,h}\right]}{h\,(b\,g-a\,h)^2}$$

Result (type 4, 15976 leaves):

$$-\frac{1}{2\,h\,(g+h\,x)^2}\left(-p\,r\,\text{Log}[a+b\,x]-\right.$$
$$\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\left(r-\frac{r\left(-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)}{\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]}\right)+$$
$$\text{Log}\left[e\,e^{r\left(-p\,\text{Log}[a+b\,x]-q\,\text{Log}[c+d\,x]+\text{Log}\left[f\,(a+b\,x)^p\,(c+d\,x)^q\right]\right)}\,(a+b\,x)^{p\,r}\right.+$$

$$\left(f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right)^{r-\frac{r\left(-q\,\text{Log}\left[c+d\,x\right]+\text{Log}\left[f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right]\right)}{\text{Log}\left[f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right]}}\Bigg]\Bigg)^{2}+$$

$$\frac{1}{h}\,p\,r\left(-p\,r\,\text{Log}\left[a+b\,x\right]-\text{Log}\left[f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right]\right.$$

$$\left(r-\frac{r\left(-q\,\text{Log}\left[c+d\,x\right]+\text{Log}\left[f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right]\right)}{\text{Log}\left[f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right]}\right)+$$

$$\text{Log}\left[e\,e^{r\left(-p\,\text{Log}\left[a+b\,x\right]-q\,\text{Log}\left[c+d\,x\right]+\text{Log}\left[f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right]\right)}\left(a+b\,x\right)^{p\,r}\right.$$

$$\left.\left(f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right)^{r-\frac{r\left(-q\,\text{Log}\left[c+d\,x\right]+\text{Log}\left[f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right]\right)}{\text{Log}\left[f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right]}}\right]\Bigg)$$

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

$$\left.\text{Log}\left[a+b\,x\right]-\frac{b^{2}\,\text{Log}\left[1-\frac{h\left(a+b\,x\right)}{-b\,g+a\,h}\right]}{\left(-b\,g+a\,h\right)^{2}}\right)+\frac{1}{h}$$

$$q\,r^{2}\left(-p\,\text{Log}\left[a+b\,x\right]-q\,\text{Log}\left[c+d\,x\right]+\text{Log}\left[f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right]\right)$$

$$\left(\frac{d^{2}\,h\left(c+d\,x\right)}{\left(-d\,g+c\,h\right)^{3}\left(1-\frac{h\left(c+d\,x\right)}{-d\,g+c\,h}\right)}-\right.$$

$$\left.\left(\frac{d^{2}\,h^{2}\left(c+d\,x\right)^{2}}{\left(-d\,g+c\,h\right)^{4}\left(1-\frac{h\left(c+d\,x\right)}{-d\,g+c\,h}\right)^{2}}+\frac{2\,d^{2}\,h\left(c+d\,x\right)}{\left(-d\,g+c\,h\right)^{3}\left(1-\frac{h\left(c+d\,x\right)}{-d\,g+c\,h}\right)}\right)\text{Log}\left[c+d\,x\right]-\frac{d^{2}\,\text{Log}\left[1-\frac{h\left(c+d\,x\right)}{-d\,g+c\,h}\right]}{\left(-d\,g+c\,h\right)^{2}}\right)+$$

$$\frac{1}{h}\,q\,r\left(-p\,r\,\text{Log}\left[a+b\,x\right]-r\left(-p\,\text{Log}\left[a+b\,x\right]-q\,\text{Log}\left[c+d\,x\right]+\text{Log}\left[f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right]\right)-\right.$$

$$\text{Log}\left[f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right]\left(r-\frac{r\left(-q\,\text{Log}\left[c+d\,x\right]+\text{Log}\left[f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right]\right)}{\text{Log}\left[f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right]}\right)+$$

$$\text{Log}\left[e\,e^{r\left(-p\,\text{Log}\left[a+b\,x\right]-q\,\text{Log}\left[c+d\,x\right]+\text{Log}\left[f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right]\right)}\right.$$

$$\left.\left.\left(a+b\,x\right)^{p\,r}\left(f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right)^{r-\frac{r\left(-q\,\text{Log}\left[c+d\,x\right]+\text{Log}\left[f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right]\right)}{\text{Log}\left[f\left(a+b\,x\right)^{p}\left(c+d\,x\right)^{q}\right]}}\right]\right)$$

$$\left(\frac{d^{2}\,h\left(c+d\,x\right)}{\left(-d\,g+c\,h\right)^{3}\left(1-\frac{h\left(c+d\,x\right)}{-d\,g+c\,h}\right)}-\left(\frac{d^{2}\,h^{2}\left(c+d\,x\right)^{2}}{\left(-d\,g+c\,h\right)^{4}\left(1-\frac{h\left(c+d\,x\right)}{-d\,g+c\,h}\right)^{2}}+\frac{2\,d^{2}\,h\left(c+d\,x\right)}{\left(-d\,g+c\,h\right)^{3}\left(1-\frac{h\left(c+d\,x\right)}{-d\,g+c\,h}\right)}\right)\right.$$

$$\left.\text{Log}\left[c+d\,x\right]-\frac{d^{2}\,\text{Log}\left[1-\frac{h\left(c+d\,x\right)}{-d\,g+c\,h}\right]}{\left(-d\,g+c\,h\right)^{2}}\right)+\frac{1}{h}$$

$$p^{2}\,r^{2}\left(-\frac{1}{2}\left(\frac{b^{2}\,h^{2}\left(a+b\,x\right)^{2}}{\left(-b\,g+a\,h\right)^{4}\left(1-\frac{h\left(a+b\,x\right)}{-b\,g+a\,h}\right)^{2}}+\frac{2\,b^{2}\,h\left(a+b\,x\right)}{\left(-b\,g+a\,h\right)^{3}\left(1-\frac{h\left(a+b\,x\right)}{-b\,g+a\,h}\right)}\right)\text{Log}\left[a+b\,x\right]^{2}+$$

$$\frac{b^2 \operatorname{Log}\left[1-\frac{h (a+b x)}{-b g+a h}\right]}{(-b g+a h)^2}+\operatorname{Log}[a+b x]\left(\frac{b^2 h (a+b x)}{(-b g+a h)^3\left(1-\frac{h (a+b x)}{-b g+a h}\right)}-\frac{b^2 \operatorname{Log}\left[1-\frac{h (a+b x)}{-b g+a h}\right]}{(-b g+a h)^2}-\frac{b^2 \operatorname{PolyLog}\left[2, \frac{h (a+b x)}{-b g+a h}\right]}{(-b g+a h)^2}\right)+\frac{1}{h}$$

$$q^2 r^2\left(-\frac{1}{2}\left(\frac{d^2 h^2 (c+d x)^2}{(-d g+c h)^4\left(1-\frac{h (c+d x)}{-d g+c h}\right)^2}+\frac{2 d^2 h (c+d x)}{(-d g+c h)^3\left(1-\frac{h (c+d x)}{-d g+c h}\right)}\right)\operatorname{Log}[c+d x]^2+\frac{d^2 \operatorname{Log}\left[1-\frac{h (c+d x)}{-d g+c h}\right]}{(-d g+c h)^2}+\operatorname{Log}[c+d x]\left(\frac{d^2 h (c+d x)}{(-d g+c h)^3\left(1-\frac{h (c+d x)}{-d g+c h}\right)}-\frac{d^2 \operatorname{Log}\left[1-\frac{h (c+d x)}{-d g+c h}\right]}{(-d g+c h)^2}-\frac{d^2 \operatorname{PolyLog}\left[2, \frac{h (c+d x)}{-d g+c h}\right]}{(-d g+c h)^2}\right)+$$

$$\frac{1}{g^2} p q r^2\left(\frac{1}{h} 2\left(\operatorname{Log}[a+b x] \operatorname{Log}[c+d x] \operatorname{Log}\left[\frac{b (g+h x)}{b g-a h}\right]+\frac{1}{2} \operatorname{Log}\left[\frac{h (c+d x)}{-d g+c h}\right]\left(-2 \operatorname{Log}[a+b x]+\operatorname{Log}\left[\frac{h (c+d x)}{-d g+c h}\right]\right)\left(\operatorname{Log}\left[\frac{b (g+h x)}{b g-a h}\right]-\operatorname{Log}\left[-\frac{d (g+h x)}{-d g+c h}\right]\right)+\operatorname{Log}\left[\frac{h (c+d x)}{-d g+c h}\right] \operatorname{Log}\left[-\frac{(b g-a h)(c+d x)}{(-d g+c h)(a+b x)}\right]\left(-\operatorname{Log}\left[\frac{b (g+h x)}{b g-a h}\right]+\operatorname{Log}\left[-\frac{d (g+h x)}{-d g+c h}\right]\right)+\frac{1}{2} \operatorname{Log}\left[-\frac{(b g-a h)(c+d x)}{(-d g+c h)(a+b x)}\right]^2\left(\operatorname{Log}\left[\frac{-b c+a d}{d (a+b x)}\right]+\operatorname{Log}\left[\frac{b (g+h x)}{b g-a h}\right]-\operatorname{Log}\left[-\frac{(-b c+a d)(g+h x)}{(-d g+c h)(a+b x)}\right]\right)+\left(\operatorname{Log}[c+d x]-\operatorname{Log}\left[-\frac{(b g-a h)(c+d x)}{(-d g+c h)(a+b x)}\right]\right) \operatorname{PolyLog}\left[2, -\frac{h (a+b x)}{b g-a h}\right]+\left(\operatorname{Log}[a+b x]+\operatorname{Log}\left[-\frac{(b g-a h)(c+d x)}{(-d g+c h)(a+b x)}\right]\right) \operatorname{PolyLog}\left[2, \frac{h (c+d x)}{-d g+c h}\right]+\operatorname{Log}\left[-\frac{(b g-a h)(c+d x)}{(-d g+c h)(a+b x)}\right]\left(\operatorname{PolyLog}\left[2, \frac{b (c+d x)}{d (a+b x)}\right]-\operatorname{PolyLog}\left[2, -\frac{(b g-a h)(c+d x)}{(-d g+c h)(a+b x)}\right]\right)-\operatorname{PolyLog}\left[3, -\frac{h (a+b x)}{b g-a h}\right]-\operatorname{PolyLog}\left[3, \frac{h (c+d x)}{-d g+c h}\right]-\operatorname{PolyLog}\left[3, \frac{b (c+d x)}{d (a+b x)}\right]+\operatorname{PolyLog}\left[3, -\frac{(b g-a h)(c+d x)}{(-d g+c h)(a+b x)}\right]\right)+$$

$$h^2\left(\frac{1}{h}\left(\left(\frac{(b g-a h)\left(\frac{2 a b x}{(b g-a h)^2}+\frac{2 a^2 b (g+h x)}{(b g-a h)^3}\right)}{b (g+h x)}-\frac{(b g-a h) x\left(\frac{b x}{b g-a h}+\frac{a b (g+h x)}{(b g-a h)^2}\right)}{b (g+h x)^2}-\right.\right.\right.$$

$$\frac{a\left(\frac{b x}{b g-a h}+\frac{a b (g+h x)}{(b g-a h)^2}\right)}{b (g+h x)}\Bigg) \operatorname{Log}[a+b x] \operatorname{Log}[c+d x]-\Bigg(2 (-d g+c h) (a+b x)$$

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

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

$$\left.((-b c+a d) (g+h x))\right) \operatorname{Log}\left[-\frac{(b g-a h) (c+d x)}{(-d g+c h) (a+b x)}\right]\Bigg/((b g-a h) (c+d x))+$$

$$\left(-\frac{(b g-a h)\left(\frac{2 a b x}{(b g-a h)^2}+\frac{2 a^2 b (g+h x)}{(b g-a h)^3}\right)}{b (g+h x)}+\frac{(b g-a h) x\left(\frac{b x}{b g-a h}+\frac{a b (g+h x)}{(b g-a h)^2}\right)}{b (g+h x)^2}+\right.$$

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

$$\left.\frac{(-d g+c h) x\left(-\frac{d x}{-d g+c h}+\frac{c d (g+h x)}{(-d g+c h)^2}\right)}{d (g+h x)^2}-\frac{c\left(-\frac{d x}{-d g+c h}+\frac{c d (g+h x)}{(-d g+c h)^2}\right)}{d (g+h x)}\right) \operatorname{Log}\left[\frac{h (c+d x)}{-d g+c h}\right]$$

$$\operatorname{Log}\left[-\frac{(b g-a h) (c+d x)}{(-d g+c h) (a+b x)}\right]+\frac{1}{2}\left(\frac{(b g-a h)\left(\frac{2 a b x}{(b g-a h)^2}+\frac{2 a^2 b (g+h x)}{(b g-a h)^3}\right)}{b (g+h x)}-\right.$$

$$\frac{(b g-a h) x\left(\frac{b x}{b g-a h}+\frac{a b (g+h x)}{(b g-a h)^2}\right)}{b (g+h x)^2}-\frac{a\left(\frac{b x}{b g-a h}+\frac{a b (g+h x)}{(b g-a h)^2}\right)}{b (g+h x)}+$$

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

$$\left.((-b c+a d) (g+h x))-\left((-d g+c h) x (a+b x)\right.\right.$$

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

$$\left.\frac{c (a+b x)\left(-\frac{(-b c+a d) x}{(-d g+c h) (a+b x)}+\frac{c (-b c+a d) (g+h x)}{(-d g+c h)^2 (a+b x)}\right)}{(-b c+a d) (g+h x)}\right) \operatorname{Log}\left[-\frac{(b g-a h) (c+d x)}{(-d g+c h) (a+b x)}\right]^2+$$

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

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

$$\left.\left.\text{Log}\left[\frac{h\,(c+d\,x)}{-d\,g+c\,h}\right]\right)\Big/\left((b\,g-a\,h)\,(c+d\,x)\right)\right)+\frac{1}{h\,(c+d\,x)}$$

$$(-d\,g+c\,h)\left(-\frac{c\,h\,(c+d\,x)}{(-d\,g+c\,h)^2}+\frac{c+d\,x}{-d\,g+c\,h}\right)\text{Log}\left[-\frac{(b\,g-a\,h)\,(c+d\,x)}{(-d\,g+c\,h)\,(a+b\,x)}\right]\Bigg)+$$

$$\frac{1}{h\,(c+d\,x)}(-d\,g+c\,h)\left(-\frac{c\,h\,(c+d\,x)}{(-d\,g+c\,h)^2}+\frac{c+d\,x}{-d\,g+c\,h}\right)$$

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

$$\left(-2\,\text{Log}[a+b\,x]+\text{Log}\left[\frac{h\,(c+d\,x)}{-d\,g+c\,h}\right]\right)+\frac{1}{h\,(c+d\,x)}$$

$$\left.(-d\,g+c\,h)\left(-\frac{c\,h\,(c+d\,x)}{(-d\,g+c\,h)^2}+\frac{c+d\,x}{-d\,g+c\,h}\right)\left(\text{Log}\left[\frac{b\,(g+h\,x)}{b\,g-a\,h}\right]-\text{Log}\left[-\frac{d\,(g+h\,x)}{-d\,g+c\,h}\right]\right)\right)+$$

$$\frac{1}{2}\text{Log}\left[\frac{h\,(c+d\,x)}{-d\,g+c\,h}\right]\left(\frac{1}{h\,(c+d\,x)}2\,(-d\,g+c\,h)\left(-\frac{c\,h\,(c+d\,x)}{(-d\,g+c\,h)^2}+\frac{c+d\,x}{-d\,g+c\,h}\right)\right.$$

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

$$\left(\frac{(b\,g-a\,h)\left(\frac{2\,a\,b\,x}{(b\,g-a\,h)^2}+\frac{2\,a^2\,b\,(g+h\,x)}{(b\,g-a\,h)^3}\right)}{b\,(g+h\,x)}-\frac{(b\,g-a\,h)\,x\left(\frac{b\,x}{b\,g-a\,h}+\frac{a\,b\,(g+h\,x)}{(b\,g-a\,h)^2}\right)}{b\,(g+h\,x)^2}-\right.$$

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

$$\left.\frac{(-d\,g+c\,h)\,x\left(-\frac{d\,x}{-d\,g+c\,h}+\frac{c\,d\,(g+h\,x)}{(-d\,g+c\,h)^2}\right)}{d\,(g+h\,x)^2}+\frac{c\left(-\frac{d\,x}{-d\,g+c\,h}+\frac{c\,d\,(g+h\,x)}{(-d\,g+c\,h)^2}\right)}{d\,(g+h\,x)}\right)$$

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

$$\frac{c\left(-\frac{c\,h\,(c+d\,x)}{(-d\,g+c\,h)^2}+\frac{c+d\,x}{-d\,g+c\,h}\right)}{h\,(c+d\,x)}-\frac{(-d\,g+c\,h)\left(-\frac{c\,h\,(c+d\,x)}{(-d\,g+c\,h)^2}+\frac{c+d\,x}{-d\,g+c\,h}\right)}{h^2\,(c+d\,x)}\Bigg)\left(\text{Log}\left[\right.\right.$$

$$\left.\left.\frac{b\,(g+h\,x)}{b\,g-a\,h}\right]-\text{Log}\left[-\frac{d\,(g+h\,x)}{-d\,g+c\,h}\right]\right)+\frac{1}{2}\left(\frac{(-d\,g+c\,h)\left(\frac{2\,c^2\,h\,(c+d\,x)}{(-d\,g+c\,h)^3}-\frac{2\,c\,(c+d\,x)}{(-d\,g+c\,h)^2}\right)}{h\,(c+d\,x)}+\right.$$

$$\left.\left.\frac{c\left(-\frac{c\,h\,(c+d\,x)}{(-d\,g+c\,h)^2}+\frac{c+d\,x}{-d\,g+c\,h}\right)}{h\,(c+d\,x)}-\frac{(-d\,g+c\,h)\left(-\frac{c\,h\,(c+d\,x)}{(-d\,g+c\,h)^2}+\frac{c+d\,x}{-d\,g+c\,h}\right)}{h^2\,(c+d\,x)}\right)\right)$$

$$\left(-2\,\text{Log}[a+b\,x]+\text{Log}\left[\frac{h\,(c+d\,x)}{-d\,g+c\,h}\right]\right)\left(\text{Log}\left[\frac{b\,(g+h\,x)}{b\,g-a\,h}\right]-\text{Log}\left[-\frac{d\,(g+h\,x)}{-d\,g+c\,h}\right]\right)+$$

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

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

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

$$\left(-\text{Log}\left[\frac{b\,(g+h\,x)}{b\,g-a\,h}\right]+\text{Log}\left[-\frac{d\,(g+h\,x)}{-d\,g+c\,h}\right]\right)+\frac{1}{2}\left(\left(2\,(-d\,g+c\,h)^2\,(a+b\,x)^2\left(\frac{c\,(b\,g-a\,h)\,(c+d\,x)}{(-d\,g+c\,h)^2\,(a+b\,x)}+\frac{a\,(c+d\,x)}{(-d\,g+c\,h)\,(a+b\,x)}\right)^2\right)\Big/\left((b\,g-a\,h)^2\,(c+d\,x)^2\right)-\left(2\,(-d\,g+c\,h)\,(a+b\,x)\left(-\frac{2\,c^2\,(b\,g-a\,h)\,(c+d\,x)}{(-d\,g+c\,h)^3\,(a+b\,x)}-\frac{2\,a\,c\,(c+d\,x)}{(-d\,g+c\,h)^2\,(a+b\,x)}\right)\text{Log}\left[-\frac{(b\,g-a\,h)\,(c+d\,x)}{(-d\,g+c\,h)\,(a+b\,x)}\right]\right)\Big/\left((b\,g-a\,h)\,(c+d\,x)\right)-\left(2\,c\,(a+b\,x)\left(\frac{c\,(b\,g-a\,h)\,(c+d\,x)}{(-d\,g+c\,h)^2\,(a+b\,x)}+\frac{a\,(c+d\,x)}{(-d\,g+c\,h)\,(a+b\,x)}\right)\text{Log}\left[-\frac{(b\,g-a\,h)\,(c+d\,x)}{(-d\,g+c\,h)\,(a+b\,x)}\right]\right)\Big/\left((b\,g-a\,h)\,(c+d\,x)\right)-\left(2\,a\,(-d\,g+c\,h)\,(a+b\,x)\left(\frac{c\,(b\,g-a\,h)\,(c+d\,x)}{(-d\,g+c\,h)^2\,(a+b\,x)}+\frac{a\,(c+d\,x)}{(-d\,g+c\,h)\,(a+b\,x)}\right)\right)$$

$$\left.\left.\text{Log}\left[-\frac{(b g-a h)\ (c+d x)}{(-d g+c h)\ (a+b x)}\right]\right)\Big/\left((b g-a h)^2\ (c+d x)\right)\right)$$

$$\left(\text{Log}\left[\frac{-b c+a d}{d\ (a+b x)}\right]+\text{Log}\left[\frac{b\ (g+h x)}{b g-a h}\right]-\text{Log}\left[-\frac{(-b c+a d)\ (g+h x)}{(-d g+c h)\ (a+b x)}\right]\right)+$$

$$\frac{(b g-a h)^2\left(-\frac{a h\,(a+b x)}{(b g-a h)^2}-\frac{a+b x}{b g-a h}\right)^2\text{Log}\left[1+\frac{h\,(a+b x)}{b g-a h}\right]}{h^2\ (a+b x)^2}+\frac{1}{h\ (c+d x)}2\ (-d g+c h)$$

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

$$\text{Log}\left[1+\frac{h\ (a+b x)}{b g-a h}\right]+\left(\text{Log}[c+d x]-\text{Log}\left[-\frac{(b g-a h)\ (c+d x)}{(-d g+c h)\ (a+b x)}\right]\right)$$

$$\left(\frac{(b g-a h)\left(-\frac{a h\,(a+b x)}{(b g-a h)^2}-\frac{a+b x}{b g-a h}\right)\left(\frac{a h\,(a+b x)}{(b g-a h)^2}+\frac{a+b x}{b g-a h}\right)}{h\ (a+b x)\left(1+\frac{h\,(a+b x)}{b g-a h}\right)}+\right.$$

$$\frac{(b g-a h)\left(-\frac{2 a^2 h\,(a+b x)}{(b g-a h)^3}-\frac{2 a\,(a+b x)}{(b g-a h)^2}\right)\text{Log}\left[1+\frac{h\,(a+b x)}{b g-a h}\right]}{h\ (a+b x)}-$$

$$\frac{a\left(-\frac{a h\,(a+b x)}{(b g-a h)^2}-\frac{a+b x}{b g-a h}\right)\text{Log}\left[1+\frac{h\,(a+b x)}{b g-a h}\right]}{h\ (a+b x)}-$$

$$\left.\frac{(b g-a h)\left(-\frac{a h\,(a+b x)}{(b g-a h)^2}-\frac{a+b x}{b g-a h}\right)\text{Log}\left[1+\frac{h\,(a+b x)}{b g-a h}\right]}{h^2\ (a+b x)}\right)+$$

$$\frac{(-d g+c h)^2\left(-\frac{c h\,(c+d x)}{(-d g+c h)^2}+\frac{c+d x}{-d g+c h}\right)^2\text{Log}\left[1-\frac{h\,(c+d x)}{-d g+c h}\right]}{h^2\ (c+d x)^2}+$$

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

$$\left.\left.\frac{a\ (c+d x)}{(-d g+c h)\ (a+b x)}\right)\text{Log}\left[1-\frac{h\ (c+d x)}{-d g+c h}\right]\right)\Big/\left(h\ (b g-a h)\ (c+d x)^2\right)+$$

$$\left(\text{Log}[a+b x]+\text{Log}\left[-\frac{(b g-a h)\ (c+d x)}{(-d g+c h)\ (a+b x)}\right]\right)\left(-\left(\left(\left((-d g+c h)\right.\right.\right.\right.$$

$$\left.\left.\left.\left.\left(\frac{c h\ (c+d x)}{(-d g+c h)^2}-\frac{c+d x}{-d g+c h}\right)\left(-\frac{c h\ (c+d x)}{(-d g+c h)^2}+\frac{c+d x}{-d g+c h}\right)\right)\Big/\left(h\ (c+d x)\right.\right.\right.\right.$$

$$\left.\left.\left.\left.\left(1-\frac{h\ (c+d x)}{-d g+c h}\right)\right)\right)\right)-\frac{(-d g+c h)\left(\frac{2 c^2 h\,(c+d x)}{(-d g+c h)^3}-\frac{2 c\,(c+d x)}{(-d g+c h)^2}\right)\text{Log}\left[1-\frac{h\,(c+d x)}{-d g+c h}\right]}{h\ (c+d x)}-$$

$$\frac{c\left(-\frac{c h\,(c+d x)}{(-d g+c h)^2}+\frac{c+d x}{-d g+c h}\right)\text{Log}\left[1-\frac{h\,(c+d x)}{-d g+c h}\right]}{h\ (c+d x)}+$$

$$\frac{(-dg+ch)\left(-\frac{ch(c+dx)}{(-dg+ch)^2}+\frac{c+dx}{-dg+ch}\right)\text{Log}\left[1-\frac{h(c+dx)}{-dg+ch}\right]}{h^2(c+dx)}\Bigg)+$$

$$\left((-dg+ch)^2(a+bx)^2\left(\frac{c(bg-ah)(c+dx)}{(-dg+ch)^2(a+bx)}+\frac{a(c+dx)}{(-dg+ch)(a+bx)}\right)^2\right.$$

$$\left.\text{Log}\left[1+\frac{(bg-ah)(c+dx)}{(-dg+ch)(a+bx)}\right]\right)\Big/\left((bg-ah)^2(c+dx)^2\right)+$$

$$\text{Log}\left[-\frac{(bg-ah)(c+dx)}{(-dg+ch)(a+bx)}\right]\left(-\left(\left((-dg+ch)(a+bx)\left(-\frac{c(bg-ah)(c+dx)}{(-dg+ch)^2(a+bx)}-\right.\right.\right.\right.$$

$$\left.\left.\left.\left.\frac{a(c+dx)}{(-dg+ch)(a+bx)}\right)\left(\frac{c(bg-ah)(c+dx)}{(-dg+ch)^2(a+bx)}+\frac{a(c+dx)}{(-dg+ch)(a+bx)}\right)\right)\Big/\right.\right.$$

$$\left.\left.\left((bg-ah)(c+dx)\left(1+\frac{(bg-ah)(c+dx)}{(-dg+ch)(a+bx)}\right)\right)\right)-$$

$$\left((-dg+ch)(a+bx)\left(-\frac{2c^2(bg-ah)(c+dx)}{(-dg+ch)^3(a+bx)}-\frac{2ac(c+dx)}{(-dg+ch)^2(a+bx)}\right)\right.$$

$$\left.\text{Log}\left[1+\frac{(bg-ah)(c+dx)}{(-dg+ch)(a+bx)}\right]\right)\Big/\left((bg-ah)(c+dx)\right)-$$

$$\left(c(a+bx)\left(\frac{c(bg-ah)(c+dx)}{(-dg+ch)^2(a+bx)}+\frac{a(c+dx)}{(-dg+ch)(a+bx)}\right)\right.$$

$$\left.\text{Log}\left[1+\frac{(bg-ah)(c+dx)}{(-dg+ch)(a+bx)}\right]\right)\Big/\left((bg-ah)(c+dx)\right)-$$

$$\left(a(-dg+ch)(a+bx)\left(\frac{c(bg-ah)(c+dx)}{(-dg+ch)^2(a+bx)}+\frac{a(c+dx)}{(-dg+ch)(a+bx)}\right)\right.$$

$$\left.\text{Log}\left[1+\frac{(bg-ah)(c+dx)}{(-dg+ch)(a+bx)}\right]\right)\Big/\left((bg-ah)^2(c+dx)\right)\Bigg)+$$

$$\frac{(bg-ah)\left(-\frac{2a^2h(a+bx)}{(bg-ah)^3}-\frac{2a(a+bx)}{(bg-ah)^2}\right)\text{PolyLog}\left[2,-\frac{h(a+bx)}{bg-ah}\right]}{h(a+bx)}-$$

$$\frac{a\left(-\frac{ah(a+bx)}{(bg-ah)^2}-\frac{a+bx}{bg-ah}\right)\text{PolyLog}\left[2,-\frac{h(a+bx)}{bg-ah}\right]}{h(a+bx)}-$$

$$\frac{(bg-ah)\left(-\frac{ah(a+bx)}{(bg-ah)^2}-\frac{a+bx}{bg-ah}\right)\text{PolyLog}\left[2,-\frac{h(a+bx)}{bg-ah}\right]}{h^2(a+bx)}+$$

$$\left(\left((-dg+ch)(a+bx)\left(-\frac{2c^2(bg-ah)(c+dx)}{(-dg+ch)^3(a+bx)}-\frac{2ac(c+dx)}{(-dg+ch)^2(a+bx)}\right)\right)\Big/\right.$$

$$\left.\left((bg-ah)(c+dx)\right)+\frac{c(a+bx)\left(\frac{c(bg-ah)(c+dx)}{(-dg+ch)^2(a+bx)}+\frac{a(c+dx)}{(-dg+ch)(a+bx)}\right)}{(bg-ah)(c+dx)}+\right.$$

$$\left(a\left(-d g+c h\right)\left(a+b x\right)\left(\frac{c\left(b g-a h\right)\left(c+d x\right)}{\left(-d g+c h\right)^2\left(a+b x\right)}+\frac{a\left(c+d x\right)}{\left(-d g+c h\right)\left(a+b x\right)}\right)\right)\Big/\left(\left(b g-a h\right)^2\left(c+d x\right)\right)\Bigg)\,\text{PolyLog}\left[2,\,-\frac{h\left(a+b x\right)}{b g-a h}\right]-$$

$$\frac{\left(-d g+c h\right)\left(\frac{2 c^2 h\,(c+d x)}{(-d g+c h)^3}-\frac{2 c\,(c+d x)}{(-d g+c h)^2}\right)\text{PolyLog}\left[2,\,\frac{h\,(c+d x)}{-d g+c h}\right]}{h\left(c+d x\right)}-$$

$$\frac{c\left(-\frac{c h\,(c+d x)}{(-d g+c h)^2}+\frac{c+d x}{-d g+c h}\right)\text{PolyLog}\left[2,\,\frac{h\,(c+d x)}{-d g+c h}\right]}{h\left(c+d x\right)}+$$

$$\frac{\left(-d g+c h\right)\left(-\frac{c h\,(c+d x)}{(-d g+c h)^2}+\frac{c+d x}{-d g+c h}\right)\text{PolyLog}\left[2,\,\frac{h\,(c+d x)}{-d g+c h}\right]}{h^2\left(c+d x\right)}+$$

$$\left(-\left(\left(\left(-d g+c h\right)\left(a+b x\right)\left(-\frac{2 c^2\left(b g-a h\right)\left(c+d x\right)}{\left(-d g+c h\right)^3\left(a+b x\right)}-\frac{2 a c\left(c+d x\right)}{\left(-d g+c h\right)^2\left(a+b x\right)}\right)\right)\Big/\left(\left(b g-a h\right)\left(c+d x\right)\right)\right)-\frac{c\left(a+b x\right)\left(\frac{c\,(b g-a h)\,(c+d x)}{(-d g+c h)^2\,(a+b x)}+\frac{a\,(c+d x)}{(-d g+c h)\,(a+b x)}\right)}{\left(b g-a h\right)\left(c+d x\right)}-\left(a\left(-d g+c h\right)\left(a+b x\right)\left(\frac{c\left(b g-a h\right)\left(c+d x\right)}{\left(-d g+c h\right)^2\left(a+b x\right)}+\frac{a\left(c+d x\right)}{\left(-d g+c h\right)\left(a+b x\right)}\right)\right)\Big/\left(\left(b g-a h\right)^2\left(c+d x\right)\right)\right)\text{PolyLog}\left[2,\,\frac{h\left(c+d x\right)}{-d g+c h}\right]+$$

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

$$\left(\text{PolyLog}\left[2,\,\frac{b\left(c+d x\right)}{d\left(a+b x\right)}\right]-\text{PolyLog}\left[2,\,-\frac{\left(b g-a h\right)\left(c+d x\right)}{\left(-d g+c h\right)\left(a+b x\right)}\right]\right)-$$

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

$$\left.\text{PolyLog}\left[2,\,-\frac{\left(b g-a h\right)\left(c+d x\right)}{\left(-d g+c h\right)\left(a+b x\right)}\right]\right)\Big/\left(\left(b g-a h\right)\left(c+d x\right)\right)-$$

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

$$\left.\text{PolyLog}\left[2,\,-\frac{(b\,g-a\,h)\,(c+d\,x)}{(-d\,g+c\,h)\,(a+b\,x)}\right]\right)\Big/\,\left((b\,g-a\,h)\,(c+d\,x)\right)\,-$$

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

$$\left.\text{PolyLog}\left[2,\,-\frac{(b\,g-a\,h)\,(c+d\,x)}{(-d\,g+c\,h)\,(a+b\,x)}\right]\right)\Big/\,\left((b\,g-a\,h)^2\,(c+d\,x)\right)\Bigg)\,-$$

$$\frac{1}{h^2}\,2\,\left(\frac{(b\,g-a\,h)\,\left(\frac{b\,x}{b\,g-a\,h}+\frac{a\,b\,(g+h\,x)}{(b\,g-a\,h)^2}\right)\,\text{Log}[a+b\,x]\,\text{Log}[c+d\,x]}{b\,(g+h\,x)}+\right.$$

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

$$\text{Log}\left[\frac{h\,(c+d\,x)}{-d\,g+c\,h}\right]\,\left(-2\,\text{Log}[a+b\,x]+\text{Log}\left[\frac{h\,(c+d\,x)}{-d\,g+c\,h}\right]\right)+$$

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

$$\text{Log}\left[\frac{h\,(c+d\,x)}{-d\,g+c\,h}\right]\,\text{Log}\left[-\frac{(b\,g-a\,h)\,(c+d\,x)}{(-d\,g+c\,h)\,(a+b\,x)}\right]+\frac{1}{2}\left(\frac{(b\,g-a\,h)\,\left(\frac{b\,x}{b\,g-a\,h}+\frac{a\,b\,(g+h\,x)}{(b\,g-a\,h)^2}\right)}{b\,(g+h\,x)}+\right.$$

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

$$\left.\left((-b\,c+a\,d)\,(g+h\,x)\right)\right)\,\text{Log}\left[-\frac{(b\,g-a\,h)\,(c+d\,x)}{(-d\,g+c\,h)\,(a+b\,x)}\right]^2+$$

$$\frac{1}{2\,h\,(c+d\,x)}\,(-d\,g+c\,h)\,\left(-\frac{c\,h\,(c+d\,x)}{(-d\,g+c\,h)^2}+\frac{c+d\,x}{-d\,g+c\,h}\right)\,\text{Log}\left[\frac{h\,(c+d\,x)}{-d\,g+c\,h}\right]$$

$$\left(\text{Log}\left[\frac{b\,(g+h\,x)}{b\,g-a\,h}\right]-\text{Log}\left[-\frac{d\,(g+h\,x)}{-d\,g+c\,h}\right]\right)+\frac{1}{2\,h\,(c+d\,x)}$$

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

$$\left(\text{Log}\left[\frac{b\,(g+h\,x)}{b\,g-a\,h}\right]-\text{Log}\left[-\frac{d\,(g+h\,x)}{-d\,g+c\,h}\right]\right)\,-$$

$$\left((-d\,g+c\,h)\,(a+b\,x)\,\left(\frac{c\,(b\,g-a\,h)\,(c+d\,x)}{(-d\,g+c\,h)^2\,(a+b\,x)}+\frac{a\,(c+d\,x)}{(-d\,g+c\,h)\,(a+b\,x)}\right)\,\text{Log}\right.$$

$$\frac{h\,(c+d\,x)}{-d\,g+c\,h}\Big]\,\left(-\text{Log}\Big[\frac{b\,(g+h\,x)}{b\,g-a\,h}\Big]+\text{Log}\Big[-\frac{d\,(g+h\,x)}{-d\,g+c\,h}\Big]\right)\Big)\Big/\,\big((b\,g-a\,h)\,(c+d\,x)\big)+$$

$$\frac{1}{h\,(c+d\,x)}(-d\,g+c\,h)\,\left(-\frac{c\,h\,(c+d\,x)}{(-d\,g+c\,h)^2}+\frac{c+d\,x}{-d\,g+c\,h}\right)\text{Log}\Big[-\frac{(b\,g-a\,h)\,(c+d\,x)}{(-d\,g+c\,h)\,(a+b\,x)}\Big]$$

$$\left(-\text{Log}\Big[\frac{b\,(g+h\,x)}{b\,g-a\,h}\Big]+\text{Log}\Big[-\frac{d\,(g+h\,x)}{-d\,g+c\,h}\Big]\right)-$$

$$\left((-d\,g+c\,h)\,(a+b\,x)\,\left(\frac{c\,(b\,g-a\,h)\,(c+d\,x)}{(-d\,g+c\,h)^2\,(a+b\,x)}+\frac{a\,(c+d\,x)}{(-d\,g+c\,h)\,(a+b\,x)}\right)\text{Log}\Big[-\frac{(b\,g-a\,h)\,(c+d\,x)}{(-d\,g+c\,h)\,(a+b\,x)}\Big]\,\left(\text{Log}\Big[\frac{-b\,c+a\,d}{d\,(a+b\,x)}\Big]+\text{Log}\Big[\frac{b\,(g+h\,x)}{b\,g-a\,h}\Big]-\text{Log}\Big[-\frac{(-b\,c+a\,d)\,(g+h\,x)}{(-d\,g+c\,h)\,(a+b\,x)}\Big]\right)\right)\Big/\,\big((b\,g-a\,h)\,(c+d\,x)\big)+\frac{1}{h\,(a+b\,x)}$$

$$(b\,g-a\,h)\,\left(-\frac{a\,h\,(a+b\,x)}{(b\,g-a\,h)^2}-\frac{a+b\,x}{b\,g-a\,h}\right)\left(\text{Log}[c+d\,x]-\text{Log}\Big[-\frac{(b\,g-a\,h)\,(c+d\,x)}{(-d\,g+c\,h)\,(a+b\,x)}\Big]\right)$$

$$\text{Log}\Big[1+\frac{h\,(a+b\,x)}{b\,g-a\,h}\Big]-\frac{1}{h\,(c+d\,x)}(-d\,g+c\,h)\,\left(-\frac{c\,h\,(c+d\,x)}{(-d\,g+c\,h)^2}+\frac{c+d\,x}{-d\,g+c\,h}\right)$$

$$\left(\text{Log}[a+b\,x]+\text{Log}\Big[-\frac{(b\,g-a\,h)\,(c+d\,x)}{(-d\,g+c\,h)\,(a+b\,x)}\Big]\right)\text{Log}\Big[1-\frac{h\,(c+d\,x)}{-d\,g+c\,h}\Big]-$$

$$\left((-d\,g+c\,h)\,(a+b\,x)\,\left(\frac{c\,(b\,g-a\,h)\,(c+d\,x)}{(-d\,g+c\,h)^2\,(a+b\,x)}+\frac{a\,(c+d\,x)}{(-d\,g+c\,h)\,(a+b\,x)}\right)\text{Log}\Big[-\frac{(b\,g-a\,h)\,(c+d\,x)}{(-d\,g+c\,h)\,(a+b\,x)}\Big]\,\text{Log}\Big[1+\frac{(b\,g-a\,h)\,(c+d\,x)}{(-d\,g+c\,h)\,(a+b\,x)}\Big]\right)\Big/\,\big((b\,g-a\,h)\,(c+d\,x)\big)+$$

$$\frac{(b\,g-a\,h)\,\left(-\frac{a\,h\,(a+b\,x)}{(b\,g-a\,h)^2}-\frac{a+b\,x}{b\,g-a\,h}\right)\text{PolyLog}\Big[2,\,-\frac{h\,(a+b\,x)}{b\,g-a\,h}\Big]}{h\,(a+b\,x)}+\left((-d\,g+c\,h)\,(a+b\,x)\,\left(\frac{c\,(b\,g-a\,h)\,(c+d\,x)}{(-d\,g+c\,h)^2\,(a+b\,x)}+\frac{a\,(c+d\,x)}{(-d\,g+c\,h)\,(a+b\,x)}\right)\text{PolyLog}\Big[2,\,-\frac{h\,(a+b\,x)}{b\,g-a\,h}\Big]\right)\Big/$$

$$\big((b\,g-a\,h)\,(c+d\,x)\big)-\frac{(-d\,g+c\,h)\,\left(-\frac{c\,h\,(c+d\,x)}{(-d\,g+c\,h)^2}+\frac{c+d\,x}{-d\,g+c\,h}\right)\text{PolyLog}\Big[2,\,\frac{h\,(c+d\,x)}{-d\,g+c\,h}\Big]}{h\,(c+d\,x)}-$$

$$\left((-d\,g+c\,h)\,(a+b\,x)\,\left(\frac{c\,(b\,g-a\,h)\,(c+d\,x)}{(-d\,g+c\,h)^2\,(a+b\,x)}+\frac{a\,(c+d\,x)}{(-d\,g+c\,h)\,(a+b\,x)}\right)\text{PolyLog}\Big[2,\,\frac{h\,(c+d\,x)}{-d\,g+c\,h}\Big]\right)\Big/\,\big((b\,g-a\,h)\,(c+d\,x)\big)-$$

$$\left((-d\,g+c\,h)\,(a+b\,x)\,\left(\frac{c\,(b\,g-a\,h)\,(c+d\,x)}{(-d\,g+c\,h)^2\,(a+b\,x)}+\frac{a\,(c+d\,x)}{(-d\,g+c\,h)\,(a+b\,x)}\right)\left(\text{PolyLog}\Big[2,\,\frac{b\,(c+d\,x)}{d\,(a+b\,x)}\Big]-\text{PolyLog}\Big[2,\,-\frac{(b\,g-a\,h)\,(c+d\,x)}{(-d\,g+c\,h)\,(a+b\,x)}\Big]\right)\right)\Big/\,\big((b\,g-a\,h)\,(c+d\,x)\big)-$$

$$\left(\left(-d g+c h\right)\left(a+b x\right)\left(\frac{c\left(b g-a h\right)\left(c+d x\right)}{\left(-d g+c h\right)^2\left(a+b x\right)}+\frac{a\left(c+d x\right)}{\left(-d g+c h\right)\left(a+b x\right)}\right)\right.$$
$$\left.\text{PolyLog}\left[2,-\frac{\left(b g-a h\right)\left(c+d x\right)}{\left(-d g+c h\right)\left(a+b x\right)}\right]\right)\Big/\left(\left(b g-a h\right)\left(c+d x\right)\right)\Bigg)+$$

$$\frac{1}{h^3}2\left(\text{Log}\left[a+b x\right]\text{Log}\left[c+d x\right]\text{Log}\left[\frac{b\left(g+h x\right)}{b g-a h}\right]+\frac{1}{2}\text{Log}\left[\frac{h\left(c+d x\right)}{-d g+c h}\right]\right.$$
$$\left(-2\,\text{Log}\left[a+b x\right]+\text{Log}\left[\frac{h\left(c+d x\right)}{-d g+c h}\right]\right)\left(\text{Log}\left[\frac{b\left(g+h x\right)}{b g-a h}\right]-\text{Log}\left[-\frac{d\left(g+h x\right)}{-d g+c h}\right]\right)+$$
$$\text{Log}\left[\frac{h\left(c+d x\right)}{-d g+c h}\right]\text{Log}\left[-\frac{\left(b g-a h\right)\left(c+d x\right)}{\left(-d g+c h\right)\left(a+b x\right)}\right]$$
$$\left(-\text{Log}\left[\frac{b\left(g+h x\right)}{b g-a h}\right]+\text{Log}\left[-\frac{d\left(g+h x\right)}{-d g+c h}\right]\right)+\frac{1}{2}\text{Log}\left[-\frac{\left(b g-a h\right)\left(c+d x\right)}{\left(-d g+c h\right)\left(a+b x\right)}\right]^2$$
$$\left(\text{Log}\left[\frac{-b c+a d}{d\left(a+b x\right)}\right]+\text{Log}\left[\frac{b\left(g+h x\right)}{b g-a h}\right]-\text{Log}\left[-\frac{\left(-b c+a d\right)\left(g+h x\right)}{\left(-d g+c h\right)\left(a+b x\right)}\right]\right)+$$
$$\left(\text{Log}\left[c+d x\right]-\text{Log}\left[-\frac{\left(b g-a h\right)\left(c+d x\right)}{\left(-d g+c h\right)\left(a+b x\right)}\right]\right)\text{PolyLog}\left[2,-\frac{h\left(a+b x\right)}{b g-a h}\right]+$$
$$\left(\text{Log}\left[a+b x\right]+\text{Log}\left[-\frac{\left(b g-a h\right)\left(c+d x\right)}{\left(-d g+c h\right)\left(a+b x\right)}\right]\right)\text{PolyLog}\left[2,\frac{h\left(c+d x\right)}{-d g+c h}\right]+$$
$$\text{Log}\left[-\frac{\left(b g-a h\right)\left(c+d x\right)}{\left(-d g+c h\right)\left(a+b x\right)}\right]\left(\text{PolyLog}\left[2,\frac{b\left(c+d x\right)}{d\left(a+b x\right)}\right]-\text{PolyLog}\left[2,\right.\right.$$
$$\left.\left.-\frac{\left(b g-a h\right)\left(c+d x\right)}{\left(-d g+c h\right)\left(a+b x\right)}\right]\right)-\text{PolyLog}\left[3,-\frac{h\left(a+b x\right)}{b g-a h}\right]-\text{PolyLog}\left[3,\frac{h\left(c+d x\right)}{-d g+c h}\right]-$$
$$\left.\text{PolyLog}\left[3,\frac{b\left(c+d x\right)}{d\left(a+b x\right)}\right]+\text{PolyLog}\left[3,-\frac{\left(b g-a h\right)\left(c+d x\right)}{\left(-d g+c h\right)\left(a+b x\right)}\right]\right)\Bigg)+$$

$$4h\left(\frac{1}{h}\left(\frac{\left(b g-a h\right)\left(\frac{b x}{b g-a h}+\frac{a b\left(g+h x\right)}{\left(b g-a h\right)^2}\right)\text{Log}\left[a+b x\right]\text{Log}\left[c+d x\right]}{b\left(g+h x\right)}+\right.\right.$$
$$\frac{1}{2}\left(\frac{\left(b g-a h\right)\left(\frac{b x}{b g-a h}+\frac{a b\left(g+h x\right)}{\left(b g-a h\right)^2}\right)}{b\left(g+h x\right)}+\frac{\left(-d g+c h\right)\left(-\frac{d x}{-d g+c h}+\frac{c d\left(g+h x\right)}{\left(-d g+c h\right)^2}\right)}{d\left(g+h x\right)}\right)$$
$$\text{Log}\left[\frac{h\left(c+d x\right)}{-d g+c h}\right]\left(-2\,\text{Log}\left[a+b x\right]+\text{Log}\left[\frac{h\left(c+d x\right)}{-d g+c h}\right]\right)+$$
$$\left(-\frac{\left(b g-a h\right)\left(\frac{b x}{b g-a h}+\frac{a b\left(g+h x\right)}{\left(b g-a h\right)^2}\right)}{b\left(g+h x\right)}-\frac{\left(-d g+c h\right)\left(-\frac{d x}{-d g+c h}+\frac{c d\left(g+h x\right)}{\left(-d g+c h\right)^2}\right)}{d\left(g+h x\right)}\right)$$
$$\text{Log}\left[\frac{h\left(c+d x\right)}{-d g+c h}\right]\text{Log}\left[-\frac{\left(b g-a h\right)\left(c+d x\right)}{\left(-d g+c h\right)\left(a+b x\right)}\right]+$$

$$\frac{1}{2}\left(\frac{(b g-a h)\left(\frac{b x}{b g-a h}+\frac{a b (g+h x)}{(b g-a h)^2}\right)}{b (g+h x)}+\left((-d g+c h)(a+b x)\left(-\frac{(-b c+a d) x}{(-d g+c h)(a+b x)}+\frac{c (-b c+a d)(g+h x)}{(-d g+c h)^2 (a+b x)}\right)\right)\Big/\left((-b c+a d)(g+h x)\right)\right)$$

$$\text{Log}\left[-\frac{(b g-a h)(c+d x)}{(-d g+c h)(a+b x)}\right]^2+\frac{1}{2 h (c+d x)}(-d g+c h)\left(-\frac{c h (c+d x)}{(-d g+c h)^2}+\frac{c+d x}{-d g+c h}\right)$$

$$\text{Log}\left[\frac{h (c+d x)}{-d g+c h}\right]\left(\text{Log}\left[\frac{b (g+h x)}{b g-a h}\right]-\text{Log}\left[-\frac{d (g+h x)}{-d g+c h}\right]\right)+$$

$$\frac{1}{2 h (c+d x)}(-d g+c h)\left(-\frac{c h (c+d x)}{(-d g+c h)^2}+\frac{c+d x}{-d g+c h}\right)$$

$$\left(-2\,\text{Log}[a+b x]+\text{Log}\left[\frac{h (c+d x)}{-d g+c h}\right]\right)\left(\text{Log}\left[\frac{b (g+h x)}{b g-a h}\right]-\text{Log}\left[-\frac{d (g+h x)}{-d g+c h}\right]\right)-$$

$$\left((-d g+c h)(a+b x)\left(\frac{c (b g-a h)(c+d x)}{(-d g+c h)^2 (a+b x)}+\frac{a (c+d x)}{(-d g+c h)(a+b x)}\right)\text{Log}\left[\frac{h (c+d x)}{-d g+c h}\right]\left(-\text{Log}\left[\frac{b (g+h x)}{b g-a h}\right]+\text{Log}\left[-\frac{d (g+h x)}{-d g+c h}\right]\right)\right)\Big/\left((b g-a h)(c+d x)\right)+\frac{1}{h (c+d x)}$$

$$(-d g+c h)\left(-\frac{c h (c+d x)}{(-d g+c h)^2}+\frac{c+d x}{-d g+c h}\right)\text{Log}\left[-\frac{(b g-a h)(c+d x)}{(-d g+c h)(a+b x)}\right]$$

$$\left(-\text{Log}\left[\frac{b (g+h x)}{b g-a h}\right]+\text{Log}\left[-\frac{d (g+h x)}{-d g+c h}\right]\right)-\left((-d g+c h)(a+b x)\left(\frac{c (b g-a h)(c+d x)}{(-d g+c h)^2 (a+b x)}+\frac{a (c+d x)}{(-d g+c h)(a+b x)}\right)\text{Log}\left[-\frac{(b g-a h)(c+d x)}{(-d g+c h)(a+b x)}\right]\left(\text{Log}\left[\frac{-b c+a d}{d (a+b x)}\right]+\text{Log}\left[\frac{b (g+h x)}{b g-a h}\right]-\text{Log}\left[-\frac{(-b c+a d)(g+h x)}{(-d g+c h)(a+b x)}\right]\right)\right)\Big/$$

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

$$\left(\text{Log}[c+d x]-\text{Log}\left[-\frac{(b g-a h)(c+d x)}{(-d g+c h)(a+b x)}\right]\right)\text{Log}\left[1+\frac{h (a+b x)}{b g-a h}\right]-$$

$$\frac{1}{h (c+d x)}(-d g+c h)\left(-\frac{c h (c+d x)}{(-d g+c h)^2}+\frac{c+d x}{-d g+c h}\right)$$

$$\left(\text{Log}[a+b x]+\text{Log}\left[-\frac{(b g-a h)(c+d x)}{(-d g+c h)(a+b x)}\right]\right)\text{Log}\left[1-\frac{h (c+d x)}{-d g+c h}\right]-$$

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

$$\text{Log}\left[-\frac{(b\,g-a\,h)\,(c+d\,x)}{(-d\,g+c\,h)\,(a+b\,x)}\right]\,\text{Log}\left[1+\frac{(b\,g-a\,h)\,(c+d\,x)}{(-d\,g+c\,h)\,(a+b\,x)}\right]\Bigg)\Bigg/$$

$$\big((b\,g-a\,h)\,(c+d\,x)\big)+\frac{(b\,g-a\,h)\,\left(-\frac{a\,h\,(a+b\,x)}{(b\,g-a\,h)^2}-\frac{a+b\,x}{b\,g-a\,h}\right)\,\text{PolyLog}\left[2,-\frac{h\,(a+b\,x)}{b\,g-a\,h}\right]}{h\,(a+b\,x)}+$$

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

$$\left.\text{PolyLog}\left[2,-\frac{h\,(a+b\,x)}{b\,g-a\,h}\right]\right)\Bigg/\big((b\,g-a\,h)\,(c+d\,x)\big)-$$

$$\frac{(-d\,g+c\,h)\,\left(-\frac{c\,h\,(c+d\,x)}{(-d\,g+c\,h)^2}+\frac{c+d\,x}{-d\,g+c\,h}\right)\,\text{PolyLog}\left[2,\frac{h\,(c+d\,x)}{-d\,g+c\,h}\right]}{h\,(c+d\,x)}-$$

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

$$\left.\text{PolyLog}\left[2,\frac{h\,(c+d\,x)}{-d\,g+c\,h}\right]\right)\Bigg/\big((b\,g-a\,h)\,(c+d\,x)\big)-$$

$$\left((-d\,g+c\,h)\,(a+b\,x)\,\left(\frac{c\,(b\,g-a\,h)\,(c+d\,x)}{(-d\,g+c\,h)^2\,(a+b\,x)}+\frac{a\,(c+d\,x)}{(-d\,g+c\,h)\,(a+b\,x)}\right)\right.\Bigg(\text{PolyLog}\Big[2,$$

$$\left.\frac{b\,(c+d\,x)}{d\,(a+b\,x)}\Big]-\text{PolyLog}\left[2,-\frac{(b\,g-a\,h)\,(c+d\,x)}{(-d\,g+c\,h)\,(a+b\,x)}\right]\Bigg)\right)\Bigg/\big((b\,g-a\,h)\,(c+d\,x)\big)-$$

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

$$\left.\left.\text{PolyLog}\left[2,-\frac{(b\,g-a\,h)\,(c+d\,x)}{(-d\,g+c\,h)\,(a+b\,x)}\right]\right)\Bigg/\big((b\,g-a\,h)\,(c+d\,x)\big)\right)-$$

$$\frac{1}{h^2}\left(\text{Log}[a+b\,x]\,\text{Log}[c+d\,x]\,\text{Log}\left[\frac{b\,(g+h\,x)}{b\,g-a\,h}\right]+\frac{1}{2}\,\text{Log}\left[\frac{h\,(c+d\,x)}{-d\,g+c\,h}\right]\right.$$

$$\left(-2\,\text{Log}[a+b\,x]+\text{Log}\left[\frac{h\,(c+d\,x)}{-d\,g+c\,h}\right]\right)\,\left(\text{Log}\left[\frac{b\,(g+h\,x)}{b\,g-a\,h}\right]-\text{Log}\left[-\frac{d\,(g+h\,x)}{-d\,g+c\,h}\right]\right)+$$

$$\text{Log}\left[\frac{h\,(c+d\,x)}{-d\,g+c\,h}\right]\,\text{Log}\left[-\frac{(b\,g-a\,h)\,(c+d\,x)}{(-d\,g+c\,h)\,(a+b\,x)}\right]$$

$$\left(-\text{Log}\left[\frac{b\,(g+h\,x)}{b\,g-a\,h}\right]+\text{Log}\left[-\frac{d\,(g+h\,x)}{-d\,g+c\,h}\right]\right)+\frac{1}{2}\,\text{Log}\left[-\frac{(b\,g-a\,h)\,(c+d\,x)}{(-d\,g+c\,h)\,(a+b\,x)}\right]^2$$

$$\left(\text{Log}\left[\frac{-b\,c+a\,d}{d\,(a+b\,x)}\right]+\text{Log}\left[\frac{b\,(g+h\,x)}{b\,g-a\,h}\right]-\text{Log}\left[-\frac{(-b\,c+a\,d)\,(g+h\,x)}{(-d\,g+c\,h)\,(a+b\,x)}\right]\right)+$$

$$\left(\text{Log}[c+d\,x]-\text{Log}\left[-\frac{(b\,g-a\,h)\,(c+d\,x)}{(-d\,g+c\,h)\,(a+b\,x)}\right]\right)\,\text{PolyLog}\left[2,-\frac{h\,(a+b\,x)}{b\,g-a\,h}\right]+$$

$$\left(\text{Log}[a+b\,x]+\text{Log}\left[-\frac{(b\,g-a\,h)\,(c+d\,x)}{(-d\,g+c\,h)\,(a+b\,x)}\right]\right)\,\text{PolyLog}\left[2,\frac{h\,(c+d\,x)}{-d\,g+c\,h}\right]+$$

$$\text{Log}\left[-\frac{(b\,g-a\,h)\,(c+d\,x)}{(-d\,g+c\,h)\,(a+b\,x)}\right]$$
$$\left(\text{PolyLog}\left[2,\ \frac{b\,(c+d\,x)}{d\,(a+b\,x)}\right]-\text{PolyLog}\left[2,\ -\frac{(b\,g-a\,h)\,(c+d\,x)}{(-d\,g+c\,h)\,(a+b\,x)}\right]\right)-$$
$$\text{PolyLog}\left[3,\ -\frac{h\,(a+b\,x)}{b\,g-a\,h}\right]-\text{PolyLog}\left[3,\ \frac{h\,(c+d\,x)}{-d\,g+c\,h}\right]-$$
$$\left.\text{PolyLog}\left[3,\ \frac{b\,(c+d\,x)}{d\,(a+b\,x)}\right]+\text{PolyLog}\left[3,\ -\frac{(b\,g-a\,h)\,(c+d\,x)}{(-d\,g+c\,h)\,(a+b\,x)}\right]\right)\Bigg)$$

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

$$\int\frac{\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]^2}{(g+h\,x)^4}\,dx$$

Optimal (type 4, 1957 leaves, 57 steps):

$$-\frac{b^2\,p^2\,r^2}{3\,h\,(b\,g-a\,h)^2\,(g+h\,x)}-\frac{2\,b\,d\,p\,q\,r^2}{3\,h\,(b\,g-a\,h)\,(d\,g-c\,h)\,(g+h\,x)}-$$
$$\frac{d^2\,q^2\,r^2}{3\,h\,(d\,g-c\,h)^2\,(g+h\,x)}-\frac{b^3\,p^2\,r^2\,\text{Log}[a+b\,x]}{3\,h\,(b\,g-a\,h)^3}-\frac{2\,b\,d^2\,p\,q\,r^2\,\text{Log}[a+b\,x]}{3\,h\,(b\,g-a\,h)\,(d\,g-c\,h)^2}-$$
$$\frac{b^2\,d\,p\,q\,r^2\,\text{Log}[a+b\,x]}{3\,h\,(b\,g-a\,h)^2\,(d\,g-c\,h)}+\frac{b\,p^2\,r^2\,\text{Log}[a+b\,x]}{3\,h\,(b\,g-a\,h)\,(g+h\,x)^2}+\frac{d\,p\,q\,r^2\,\text{Log}[a+b\,x]}{3\,h\,(d\,g-c\,h)\,(g+h\,x)^2}+$$
$$\frac{2\,d^2\,p\,q\,r^2\,\text{Log}[a+b\,x]}{3\,h\,(d\,g-c\,h)^2\,(g+h\,x)}-\frac{2\,b^2\,p^2\,r^2\,(a+b\,x)\,\text{Log}[a+b\,x]}{3\,(b\,g-a\,h)^3\,(g+h\,x)}-\frac{b\,d^2\,p\,q\,r^2\,\text{Log}[c+d\,x]}{3\,h\,(b\,g-a\,h)\,(d\,g-c\,h)^2}-$$
$$\frac{2\,b^2\,d\,p\,q\,r^2\,\text{Log}[c+d\,x]}{3\,h\,(b\,g-a\,h)^2\,(d\,g-c\,h)}-\frac{d^3\,q^2\,r^2\,\text{Log}[c+d\,x]}{3\,h\,(d\,g-c\,h)^3}+\frac{b\,p\,q\,r^2\,\text{Log}[c+d\,x]}{3\,h\,(b\,g-a\,h)\,(g+h\,x)^2}+$$
$$\frac{d\,q^2\,r^2\,\text{Log}[c+d\,x]}{3\,h\,(d\,g-c\,h)\,(g+h\,x)^2}+\frac{2\,b^2\,p\,q\,r^2\,\text{Log}[c+d\,x]}{3\,h\,(b\,g-a\,h)^2\,(g+h\,x)}-\frac{2\,d^2\,q^2\,r^2\,(c+d\,x)\,\text{Log}[c+d\,x]}{3\,(d\,g-c\,h)^3\,(g+h\,x)}+$$
$$\frac{2\,b^3\,p\,q\,r^2\,\text{Log}\left[-\frac{d\,(a+b\,x)}{b\,c-a\,d}\right]\text{Log}[c+d\,x]}{3\,h\,(b\,g-a\,h)^3}+\frac{2\,d^3\,p\,q\,r^2\,\text{Log}[a+b\,x]\,\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]}{3\,h\,(d\,g-c\,h)^3}-$$
$$\left(b\,p\,r\,\left(p\,r\,\text{Log}[a+b\,x]+q\,r\,\text{Log}[c+d\,x]-\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]\right)\right)\Big/$$
$$\left(3\,h\,(b\,g-a\,h)\,(g+h\,x)^2\right)-$$
$$\left(d\,q\,r\,\left(p\,r\,\text{Log}[a+b\,x]+q\,r\,\text{Log}[c+d\,x]-\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]\right)\right)\Big/$$
$$\left(3\,h\,(d\,g-c\,h)\,(g+h\,x)^2\right)-$$
$$\left(2\,b^2\,p\,r\,\left(p\,r\,\text{Log}[a+b\,x]+q\,r\,\text{Log}[c+d\,x]-\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]\right)\right)\Big/$$
$$\left(3\,h\,(b\,g-a\,h)^2\,(g+h\,x)\right)-$$
$$\left(2\,d^2\,q\,r\,\left(p\,r\,\text{Log}[a+b\,x]+q\,r\,\text{Log}[c+d\,x]-\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]\right)\right)\Big/$$

$$\left(3\,h\,(d\,g-c\,h)^2\,(g+h\,x)\right)-\frac{1}{3\,h\,(b\,g-a\,h)^3}2\,b^3\,p\,r\,\text{Log}[a+b\,x]$$

$$(p\,r\,\text{Log}[a+b\,x]+q\,r\,\text{Log}[c+d\,x]-\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right])-\frac{1}{3\,h\,(d\,g-c\,h)^3}$$

$$2\,d^3\,q\,r\,\text{Log}[c+d\,x]\,(p\,r\,\text{Log}[a+b\,x]+q\,r\,\text{Log}[c+d\,x]-\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right])-$$

$$\frac{\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right]^2}{3\,h\,(g+h\,x)^3}+\frac{b^3\,p^2\,r^2\,\text{Log}[g+h\,x]}{h\,(b\,g-a\,h)^3}+\frac{b\,d^2\,p\,q\,r^2\,\text{Log}[g+h\,x]}{h\,(b\,g-a\,h)\,(d\,g-c\,h)^2}+$$

$$\frac{b^2\,d\,p\,q\,r^2\,\text{Log}[g+h\,x]}{h\,(b\,g-a\,h)^2\,(d\,g-c\,h)}+\frac{d^3\,q^2\,r^2\,\text{Log}[g+h\,x]}{h\,(d\,g-c\,h)^3}+\frac{1}{3\,h\,(b\,g-a\,h)^3}2\,b^3\,p\,r$$

$$(p\,r\,\text{Log}[a+b\,x]+q\,r\,\text{Log}[c+d\,x]-\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right])\,\text{Log}[g+h\,x]+\frac{1}{3\,h\,(d\,g-c\,h)^3}$$

$$2\,d^3\,q\,r\,(p\,r\,\text{Log}[a+b\,x]+q\,r\,\text{Log}[c+d\,x]-\text{Log}\left[e\,\left(f\,(a+b\,x)^p\,(c+d\,x)^q\right)^r\right])\,\text{Log}[g+h\,x]-$$

$$\frac{2\,d^3\,p\,q\,r^2\,\text{Log}[a+b\,x]\,\text{Log}\left[\frac{b\,(g+h\,x)}{b\,g-a\,h}\right]}{3\,h\,(d\,g-c\,h)^3}-\frac{2\,b^3\,p\,q\,r^2\,\text{Log}[c+d\,x]\,\text{Log}\left[\frac{d\,(g+h\,x)}{d\,g-c\,h}\right]}{3\,h\,(b\,g-a\,h)^3}-$$

$$\frac{2\,b^3\,p^2\,r^2\,\text{Log}[a+b\,x]\,\text{Log}\left[1+\frac{b\,g-a\,h}{h\,(a+b\,x)}\right]}{3\,h\,(b\,g-a\,h)^3}-\frac{2\,d^3\,q^2\,r^2\,\text{Log}[c+d\,x]\,\text{Log}\left[1+\frac{d\,g-c\,h}{h\,(c+d\,x)}\right]}{3\,h\,(d\,g-c\,h)^3}+$$

$$\frac{2\,b^3\,p^2\,r^2\,\text{PolyLog}\left[2,-\frac{b\,g-a\,h}{h\,(a+b\,x)}\right]}{3\,h\,(b\,g-a\,h)^3}+\frac{2\,d^3\,p\,q\,r^2\,\text{PolyLog}\left[2,-\frac{d\,(a+b\,x)}{b\,c-a\,d}\right]}{3\,h\,(d\,g-c\,h)^3}-$$

$$\frac{2\,d^3\,p\,q\,r^2\,\text{PolyLog}\left[2,-\frac{h\,(a+b\,x)}{b\,g-a\,h}\right]}{3\,h\,(d\,g-c\,h)^3}+\frac{2\,d^3\,q^2\,r^2\,\text{PolyLog}\left[2,-\frac{d\,g-c\,h}{h\,(c+d\,x)}\right]}{3\,h\,(d\,g-c\,h)^3}+$$

$$\frac{2\,b^3\,p\,q\,r^2\,\text{PolyLog}\left[2,\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]}{3\,h\,(b\,g-a\,h)^3}-\frac{2\,b^3\,p\,q\,r^2\,\text{PolyLog}\left[2,-\frac{h\,(c+d\,x)}{d\,g-c\,h}\right]}{3\,h\,(b\,g-a\,h)^3}$$

Result (type 4, 47 110 leaves) : Display of huge result suppressed!

Problem 44: Result more than twice size of optimal antiderivative.

$$\int\frac{\left(a+b\,\text{Log}\left[\frac{\sqrt{1-c\,x}}{\sqrt{1+c\,x}}\right]\right)^3}{1-c^2\,x^2}\,dx$$

Optimal (type 3, 37 leaves, 5 steps) :

$$-\frac{\left(a+b\,\text{Log}\left[\frac{\sqrt{1-c\,x}}{\sqrt{1+c\,x}}\right]\right)^4}{4\,b\,c}$$

Result (type 3, 117 leaves) :

$$-\frac{1}{4\,c}\text{Log}\left[\frac{\sqrt{1-c\,x}}{\sqrt{1+c\,x}}\right]\left(4\,a^3+6\,a^2\,b\,\text{Log}\left[\frac{\sqrt{1-c\,x}}{\sqrt{1+c\,x}}\right]+4\,a\,b^2\,\text{Log}\left[\frac{\sqrt{1-c\,x}}{\sqrt{1+c\,x}}\right]^2+b^3\,\text{Log}\left[\frac{\sqrt{1-c\,x}}{\sqrt{1+c\,x}}\right]^3\right)$$

Problem 45: Result more than twice size of optimal antiderivative.

$$\int \frac{\left(a + b \operatorname{Log}\left[\frac{\sqrt{1-c\,x}}{\sqrt{1+c\,x}}\right]\right)^2}{1 - c^2\,x^2}\,dx$$

Optimal (type 3, 37 leaves, 5 steps):

$$-\frac{\left(a + b \operatorname{Log}\left[\frac{\sqrt{1-c\,x}}{\sqrt{1+c\,x}}\right]\right)^3}{3\,b\,c}$$

Result (type 3, 86 leaves):

$$-\frac{\operatorname{Log}\left[\frac{\sqrt{1-c\,x}}{\sqrt{1+c\,x}}\right]\left(3\,a^2 + 3\,a\,b \operatorname{Log}\left[\frac{\sqrt{1-c\,x}}{\sqrt{1+c\,x}}\right] + b^2 \operatorname{Log}\left[\frac{\sqrt{1-c\,x}}{\sqrt{1+c\,x}}\right]^2\right)}{3\,c}$$

Problem 51: Result more than twice size of optimal antiderivative.

$$\int \frac{\operatorname{Log}\left[e\left(f\left(a + b\,x\right)^p\left(c + d\,x\right)^q\right)^r\right]\left(s + t \operatorname{Log}\left[i\left(g + h\,x\right)^n\right]\right)^2}{g\,k + h\,k\,x}\,dx$$

Optimal (type 4, 410 leaves, 11 steps):

$$-\frac{p\,r \operatorname{Log}\left[-\frac{h\,(a+b\,x)}{b\,g-a\,h}\right]\left(s + t \operatorname{Log}\left[i\left(g + h\,x\right)^n\right]\right)^3}{3\,h\,k\,n\,t} - \frac{q\,r \operatorname{Log}\left[-\frac{h\,(c+d\,x)}{d\,g-c\,h}\right]\left(s + t \operatorname{Log}\left[i\left(g + h\,x\right)^n\right]\right)^3}{3\,h\,k\,n\,t} + \frac{\operatorname{Log}\left[e\left(f\left(a + b\,x\right)^p\left(c + d\,x\right)^q\right)^r\right]\left(s + t \operatorname{Log}\left[i\left(g + h\,x\right)^n\right]\right)^3}{3\,h\,k\,n\,t} - \frac{p\,r\left(s + t \operatorname{Log}\left[i\left(g + h\,x\right)^n\right]\right)^2 \operatorname{PolyLog}\left[2, \frac{b\,(g+h\,x)}{b\,g-a\,h}\right]}{h\,k} - \frac{q\,r\left(s + t \operatorname{Log}\left[i\left(g + h\,x\right)^n\right]\right)^2 \operatorname{PolyLog}\left[2, \frac{d\,(g+h\,x)}{d\,g-c\,h}\right]}{h\,k} + \frac{2\,n\,p\,r\,t\left(s + t \operatorname{Log}\left[i\left(g + h\,x\right)^n\right]\right) \operatorname{PolyLog}\left[3, \frac{b\,(g+h\,x)}{b\,g-a\,h}\right]}{h\,k} + \frac{2\,n\,q\,r\,t\left(s + t \operatorname{Log}\left[i\left(g + h\,x\right)^n\right]\right) \operatorname{PolyLog}\left[3, \frac{d\,(g+h\,x)}{d\,g-c\,h}\right]}{h\,k} - \frac{2\,n^2\,p\,r\,t^2 \operatorname{PolyLog}\left[4, \frac{b\,(g+h\,x)}{b\,g-a\,h}\right]}{h\,k} - \frac{2\,n^2\,q\,r\,t^2 \operatorname{PolyLog}\left[4, \frac{d\,(g+h\,x)}{d\,g-c\,h}\right]}{h\,k}$$

Result (type 4, 22 595 leaves): Display of huge result suppressed!

Problem 56: Result more than twice size of optimal antiderivative.

$$\int \frac{\text{Log}\left[i \left(j \left(h x\right)^t\right)^u\right]^3 \text{Log}\left[e \left(f \left(a+b x\right)^p \left(c+d x\right)^q\right)^r\right]}{x} \, dx$$

Optimal (type 4, 328 leaves, 13 steps):

$$-\frac{p r \text{Log}\left[i \left(j \left(h x\right)^t\right)^u\right]^4 \text{Log}\left[1+\frac{b x}{a}\right]}{4 t u}+\frac{\text{Log}\left[i \left(j \left(h x\right)^t\right)^u\right]^4 \text{Log}\left[e \left(f \left(a+b x\right)^p \left(c+d x\right)^q\right)^r\right]}{4 t u}-$$

$$\frac{q r \text{Log}\left[i \left(j \left(h x\right)^t\right)^u\right]^4 \text{Log}\left[1+\frac{d x}{c}\right]}{4 t u}-p r \text{Log}\left[i \left(j \left(h x\right)^t\right)^u\right]^3 \text{PolyLog}\left[2,-\frac{b x}{a}\right]-$$

$$q r \text{Log}\left[i \left(j \left(h x\right)^t\right)^u\right]^3 \text{PolyLog}\left[2,-\frac{d x}{c}\right]+3 p r t u \text{Log}\left[i \left(j \left(h x\right)^t\right)^u\right]^2 \text{PolyLog}\left[3,-\frac{b x}{a}\right]+$$

$$3 q r t u \text{Log}\left[i \left(j \left(h x\right)^t\right)^u\right]^2 \text{PolyLog}\left[3,-\frac{d x}{c}\right]-6 p r t^2 u^2 \text{Log}\left[i \left(j \left(h x\right)^t\right)^u\right] \text{PolyLog}\left[4,-\frac{b x}{a}\right]-$$

$$6 q r t^2 u^2 \text{Log}\left[i \left(j \left(h x\right)^t\right)^u\right] \text{PolyLog}\left[4,-\frac{d x}{c}\right]+$$

$$6 p r t^3 u^3 \text{PolyLog}\left[5,-\frac{b x}{a}\right]+6 q r t^3 u^3 \text{PolyLog}\left[5,-\frac{d x}{c}\right]$$

Result (type 4, 1241 leaves):

$$
\begin{aligned}
&p\,r\,t^3\,u^3\,\text{Log}[x]\,\text{Log}[h\,x]^3\,\text{Log}[a+b\,x] - p\,r\,t^3\,u^3\,\text{Log}[h\,x]^4\,\text{Log}[a+b\,x] - \\
&3\,p\,r\,t^2\,u^2\,\text{Log}[x]\,\text{Log}[h\,x]^2\,\text{Log}\left[i\left(j\left(h\,x\right)^t\right)^u\right]\,\text{Log}[a+b\,x] + \\
&3\,p\,r\,t^2\,u^2\,\text{Log}[h\,x]^3\,\text{Log}\left[i\left(j\left(h\,x\right)^t\right)^u\right]\,\text{Log}[a+b\,x] + \\
&3\,p\,r\,t\,u\,\text{Log}[x]\,\text{Log}[h\,x]\,\text{Log}\left[i\left(j\left(h\,x\right)^t\right)^u\right]^2\,\text{Log}[a+b\,x] - \\
&3\,p\,r\,t\,u\,\text{Log}[h\,x]^2\,\text{Log}\left[i\left(j\left(h\,x\right)^t\right)^u\right]^2\,\text{Log}[a+b\,x] - \\
&p\,r\,\text{Log}[x]\,\text{Log}\left[i\left(j\left(h\,x\right)^t\right)^u\right]^3\,\text{Log}[a+b\,x] + p\,r\,\text{Log}[h\,x]\,\text{Log}\left[i\left(j\left(h\,x\right)^t\right)^u\right]^3\,\text{Log}[a+b\,x] + \\
&\frac{1}{4}\,p\,r\,t^3\,u^3\,\text{Log}[h\,x]^4\,\text{Log}\left[1+\frac{b\,x}{a}\right] - p\,r\,t^2\,u^2\,\text{Log}[h\,x]^3\,\text{Log}\left[i\left(j\left(h\,x\right)^t\right)^u\right]\,\text{Log}\left[1+\frac{b\,x}{a}\right] + \\
&\frac{3}{2}\,p\,r\,t\,u\,\text{Log}[h\,x]^2\,\text{Log}\left[i\left(j\left(h\,x\right)^t\right)^u\right]^2\,\text{Log}\left[1+\frac{b\,x}{a}\right] - p\,r\,\text{Log}[h\,x]\,\text{Log}\left[i\left(j\left(h\,x\right)^t\right)^u\right]^3\,\text{Log}\left[1+\frac{b\,x}{a}\right] + \\
&q\,r\,t^3\,u^3\,\text{Log}[x]\,\text{Log}[h\,x]^3\,\text{Log}[c+d\,x] - q\,r\,t^3\,u^3\,\text{Log}[h\,x]^4\,\text{Log}[c+d\,x] - \\
&3\,q\,r\,t^2\,u^2\,\text{Log}[x]\,\text{Log}[h\,x]^2\,\text{Log}\left[i\left(j\left(h\,x\right)^t\right)^u\right]\,\text{Log}[c+d\,x] + \\
&3\,q\,r\,t^2\,u^2\,\text{Log}[h\,x]^3\,\text{Log}\left[i\left(j\left(h\,x\right)^t\right)^u\right]\,\text{Log}[c+d\,x] + \\
&3\,q\,r\,t\,u\,\text{Log}[x]\,\text{Log}[h\,x]\,\text{Log}\left[i\left(j\left(h\,x\right)^t\right)^u\right]^2\,\text{Log}[c+d\,x] - \\
&3\,q\,r\,t\,u\,\text{Log}[h\,x]^2\,\text{Log}\left[i\left(j\left(h\,x\right)^t\right)^u\right]^2\,\text{Log}[c+d\,x] - \\
&q\,r\,\text{Log}[x]\,\text{Log}\left[i\left(j\left(h\,x\right)^t\right)^u\right]^3\,\text{Log}[c+d\,x] + q\,r\,\text{Log}[h\,x]\,\text{Log}\left[i\left(j\left(h\,x\right)^t\right)^u\right]^3\,\text{Log}[c+d\,x] - \\
&t^3\,u^3\,\text{Log}[x]\,\text{Log}[h\,x]^3\,\text{Log}\left[e\left(f\left(a+b\,x\right)^p\left(c+d\,x\right)^q\right)^r\right] + \\
&\frac{3}{4}\,t^3\,u^3\,\text{Log}[h\,x]^4\,\text{Log}\left[e\left(f\left(a+b\,x\right)^p\left(c+d\,x\right)^q\right)^r\right] + \\
&3\,t^2\,u^2\,\text{Log}[x]\,\text{Log}[h\,x]^2\,\text{Log}\left[i\left(j\left(h\,x\right)^t\right)^u\right]\,\text{Log}\left[e\left(f\left(a+b\,x\right)^p\left(c+d\,x\right)^q\right)^r\right] - \\
&2\,t^2\,u^2\,\text{Log}[h\,x]^3\,\text{Log}\left[i\left(j\left(h\,x\right)^t\right)^u\right]\,\text{Log}\left[e\left(f\left(a+b\,x\right)^p\left(c+d\,x\right)^q\right)^r\right] - \\
&3\,t\,u\,\text{Log}[x]\,\text{Log}[h\,x]\,\text{Log}\left[i\left(j\left(h\,x\right)^t\right)^u\right]^2\,\text{Log}\left[e\left(f\left(a+b\,x\right)^p\left(c+d\,x\right)^q\right)^r\right] + \\
&\frac{3}{2}\,t\,u\,\text{Log}[h\,x]^2\,\text{Log}\left[i\left(j\left(h\,x\right)^t\right)^u\right]^2\,\text{Log}\left[e\left(f\left(a+b\,x\right)^p\left(c+d\,x\right)^q\right)^r\right] + \\
&\text{Log}[x]\,\text{Log}\left[i\left(j\left(h\,x\right)^t\right)^u\right]^3\,\text{Log}\left[e\left(f\left(a+b\,x\right)^p\left(c+d\,x\right)^q\right)^r\right] + \\
&\frac{1}{4}\,q\,r\,t^3\,u^3\,\text{Log}[h\,x]^4\,\text{Log}\left[1+\frac{d\,x}{c}\right] - q\,r\,t^2\,u^2\,\text{Log}[h\,x]^3\,\text{Log}\left[i\left(j\left(h\,x\right)^t\right)^u\right]\,\text{Log}\left[1+\frac{d\,x}{c}\right] + \\
&\frac{3}{2}\,q\,r\,t\,u\,\text{Log}[h\,x]^2\,\text{Log}\left[i\left(j\left(h\,x\right)^t\right)^u\right]^2\,\text{Log}\left[1+\frac{d\,x}{c}\right] - q\,r\,\text{Log}[h\,x]\,\text{Log}\left[i\left(j\left(h\,x\right)^t\right)^u\right]^3\,\text{Log}\left[1+\frac{d\,x}{c}\right] - \\
&p\,r\,\text{Log}\left[i\left(j\left(h\,x\right)^t\right)^u\right]^3\,\text{PolyLog}\left[2,\,-\frac{b\,x}{a}\right] - q\,r\,\text{Log}\left[i\left(j\left(h\,x\right)^t\right)^u\right]^3\,\text{PolyLog}\left[2,\,-\frac{d\,x}{c}\right] + \\
&3\,p\,r\,t\,u\,\text{Log}\left[i\left(j\left(h\,x\right)^t\right)^u\right]^2\,\text{PolyLog}\left[3,\,-\frac{b\,x}{a}\right] + 3\,q\,r\,t\,u\,\text{Log}\left[i\left(j\left(h\,x\right)^t\right)^u\right]^2\,\text{PolyLog}\left[3,\,-\frac{d\,x}{c}\right] - \\
&6\,p\,r\,t^2\,u^2\,\text{Log}\left[i\left(j\left(h\,x\right)^t\right)^u\right]\,\text{PolyLog}\left[4,\,-\frac{b\,x}{a}\right] - 6\,q\,r\,t^2\,u^2\,\text{Log}\left[i\left(j\left(h\,x\right)^t\right)^u\right]\,\text{PolyLog}\left[4,\,-\frac{d\,x}{c}\right] + \\
&6\,p\,r\,t^3\,u^3\,\text{PolyLog}\left[5,\,-\frac{b\,x}{a}\right] + 6\,q\,r\,t^3\,u^3\,\text{PolyLog}\left[5,\,-\frac{d\,x}{c}\right]
\end{aligned}
$$

Problem 57: Result more than twice size of optimal antiderivative.

$$\int \frac{\text{Log}\left[i \left(j \left(h x\right)^t\right)^u\right]^2 \text{Log}\left[e \left(f \left(a+b x\right)^p \left(c+d x\right)^q\right)^r\right]}{x} \, dx$$

Optimal (type 4, 262 leaves, 11 steps):

$$-\frac{p r \text{Log}\left[i \left(j \left(h x\right)^t\right)^u\right]^3 \text{Log}\left[1+\frac{b x}{a}\right]}{3 t u} + \frac{\text{Log}\left[i \left(j \left(h x\right)^t\right)^u\right]^3 \text{Log}\left[e \left(f \left(a+b x\right)^p \left(c+d x\right)^q\right)^r\right]}{3 t u} - \frac{q r \text{Log}\left[i \left(j \left(h x\right)^t\right)^u\right]^3 \text{Log}\left[1+\frac{d x}{c}\right]}{3 t u} - p r \text{Log}\left[i \left(j \left(h x\right)^t\right)^u\right]^2 \text{PolyLog}\left[2, -\frac{b x}{a}\right] - q r \text{Log}\left[i \left(j \left(h x\right)^t\right)^u\right]^2 \text{PolyLog}\left[2, -\frac{d x}{c}\right] + 2 p r t u \text{Log}\left[i \left(j \left(h x\right)^t\right)^u\right] \text{PolyLog}\left[3, -\frac{b x}{a}\right] + 2 q r t u \text{Log}\left[i \left(j \left(h x\right)^t\right)^u\right] \text{PolyLog}\left[3, -\frac{d x}{c}\right] - 2 p r t^2 u^2 \text{PolyLog}\left[4, -\frac{b x}{a}\right] - 2 q r t^2 u^2 \text{PolyLog}\left[4, -\frac{d x}{c}\right]$$

Result (type 4, 839 leaves):

$$-p\,r\,t^2\,u^2\,\text{Log}[x]\,\text{Log}[h\,x]^2\,\text{Log}[a+b\,x]+p\,r\,t^2\,u^2\,\text{Log}[h\,x]^3\,\text{Log}[a+b\,x]+$$
$$2\,p\,r\,t\,u\,\text{Log}[x]\,\text{Log}[h\,x]\,\text{Log}\left[i\left(j\left(h\,x\right)^t\right)^u\right]\text{Log}[a+b\,x]-$$
$$2\,p\,r\,t\,u\,\text{Log}[h\,x]^2\,\text{Log}\left[i\left(j\left(h\,x\right)^t\right)^u\right]\text{Log}[a+b\,x]-p\,r\,\text{Log}[x]\,\text{Log}\left[i\left(j\left(h\,x\right)^t\right)^u\right]^2\text{Log}[a+b\,x]+$$
$$p\,r\,\text{Log}[h\,x]\,\text{Log}\left[i\left(j\left(h\,x\right)^t\right)^u\right]^2\text{Log}[a+b\,x]-\frac{1}{3}p\,r\,t^2\,u^2\,\text{Log}[h\,x]^3\,\text{Log}\left[1+\frac{b\,x}{a}\right]+$$
$$p\,r\,t\,u\,\text{Log}[h\,x]^2\,\text{Log}\left[i\left(j\left(h\,x\right)^t\right)^u\right]\text{Log}\left[1+\frac{b\,x}{a}\right]-p\,r\,\text{Log}[h\,x]\,\text{Log}\left[i\left(j\left(h\,x\right)^t\right)^u\right]^2\text{Log}\left[1+\frac{b\,x}{a}\right]-$$
$$q\,r\,t^2\,u^2\,\text{Log}[x]\,\text{Log}[h\,x]^2\,\text{Log}[c+d\,x]+q\,r\,t^2\,u^2\,\text{Log}[h\,x]^3\,\text{Log}[c+d\,x]+$$
$$2\,q\,r\,t\,u\,\text{Log}[x]\,\text{Log}[h\,x]\,\text{Log}\left[i\left(j\left(h\,x\right)^t\right)^u\right]\text{Log}[c+d\,x]-$$
$$2\,q\,r\,t\,u\,\text{Log}[h\,x]^2\,\text{Log}\left[i\left(j\left(h\,x\right)^t\right)^u\right]\text{Log}[c+d\,x]-$$
$$q\,r\,\text{Log}[x]\,\text{Log}\left[i\left(j\left(h\,x\right)^t\right)^u\right]^2\text{Log}[c+d\,x]+q\,r\,\text{Log}[h\,x]\,\text{Log}\left[i\left(j\left(h\,x\right)^t\right)^u\right]^2\text{Log}[c+d\,x]+$$
$$t^2\,u^2\,\text{Log}[x]\,\text{Log}[h\,x]^2\,\text{Log}\left[e\left(f\left(a+b\,x\right)^p\left(c+d\,x\right)^q\right)^r\right]-$$
$$\frac{2}{3}t^2\,u^2\,\text{Log}[h\,x]^3\,\text{Log}\left[e\left(f\left(a+b\,x\right)^p\left(c+d\,x\right)^q\right)^r\right]-$$
$$2\,t\,u\,\text{Log}[x]\,\text{Log}[h\,x]\,\text{Log}\left[i\left(j\left(h\,x\right)^t\right)^u\right]\text{Log}\left[e\left(f\left(a+b\,x\right)^p\left(c+d\,x\right)^q\right)^r\right]+$$
$$t\,u\,\text{Log}[h\,x]^2\,\text{Log}\left[i\left(j\left(h\,x\right)^t\right)^u\right]\text{Log}\left[e\left(f\left(a+b\,x\right)^p\left(c+d\,x\right)^q\right)^r\right]+$$
$$\text{Log}[x]\,\text{Log}\left[i\left(j\left(h\,x\right)^t\right)^u\right]^2\text{Log}\left[e\left(f\left(a+b\,x\right)^p\left(c+d\,x\right)^q\right)^r\right]-\frac{1}{3}q\,r\,t^2\,u^2\,\text{Log}[h\,x]^3\,\text{Log}\left[1+\frac{d\,x}{c}\right]+$$
$$q\,r\,t\,u\,\text{Log}[h\,x]^2\,\text{Log}\left[i\left(j\left(h\,x\right)^t\right)^u\right]\text{Log}\left[1+\frac{d\,x}{c}\right]-q\,r\,\text{Log}[h\,x]\,\text{Log}\left[i\left(j\left(h\,x\right)^t\right)^u\right]^2\text{Log}\left[1+\frac{d\,x}{c}\right]-$$
$$p\,r\,\text{Log}\left[i\left(j\left(h\,x\right)^t\right)^u\right]^2\text{PolyLog}\left[2,-\frac{b\,x}{a}\right]-q\,r\,\text{Log}\left[i\left(j\left(h\,x\right)^t\right)^u\right]^2\text{PolyLog}\left[2,-\frac{d\,x}{c}\right]+$$
$$2\,p\,r\,t\,u\,\text{Log}\left[i\left(j\left(h\,x\right)^t\right)^u\right]\text{PolyLog}\left[3,-\frac{b\,x}{a}\right]+2\,q\,r\,t\,u\,\text{Log}\left[i\left(j\left(h\,x\right)^t\right)^u\right]\text{PolyLog}\left[3,-\frac{d\,x}{c}\right]-$$
$$2\,p\,r\,t^2\,u^2\,\text{PolyLog}\left[4,-\frac{b\,x}{a}\right]-2\,q\,r\,t^2\,u^2\,\text{PolyLog}\left[4,-\frac{d\,x}{c}\right]$$

Problem 58: Result more than twice size of optimal antiderivative.

$$\int\frac{\text{Log}\left[i\left(j\left(h\,x\right)^t\right)^u\right]\text{Log}\left[e\left(f\left(a+b\,x\right)^p\left(c+d\,x\right)^q\right)^r\right]}{x}\,dx$$

Optimal (type 4, 194 leaves, 9 steps):

$$-\frac{p\,r\,\text{Log}\left[i\left(j\left(h\,x\right)^t\right)^u\right]^2\text{Log}\left[1+\frac{b\,x}{a}\right]}{2\,t\,u}+\frac{\text{Log}\left[i\left(j\left(h\,x\right)^t\right)^u\right]^2\text{Log}\left[e\left(f\left(a+b\,x\right)^p\left(c+d\,x\right)^q\right)^r\right]}{2\,t\,u}-$$
$$\frac{q\,r\,\text{Log}\left[i\left(j\left(h\,x\right)^t\right)^u\right]^2\text{Log}\left[1+\frac{d\,x}{c}\right]}{2\,t\,u}-p\,r\,\text{Log}\left[i\left(j\left(h\,x\right)^t\right)^u\right]\text{PolyLog}\left[2,-\frac{b\,x}{a}\right]-$$
$$q\,r\,\text{Log}\left[i\left(j\left(h\,x\right)^t\right)^u\right]\text{PolyLog}\left[2,-\frac{d\,x}{c}\right]+p\,r\,t\,u\,\text{PolyLog}\left[3,-\frac{b\,x}{a}\right]+q\,r\,t\,u\,\text{PolyLog}\left[3,-\frac{d\,x}{c}\right]$$

Result (type 4, 451 leaves):

$$p\,r\,t\,u\,\text{Log}[x]\,\text{Log}[h\,x]\,\text{Log}[a+b\,x]-p\,r\,t\,u\,\text{Log}[h\,x]^2\,\text{Log}[a+b\,x]-p\,r\,\text{Log}[x]\,\text{Log}\left[i\left(j\left(h\,x\right)^t\right)^u\right]\,\text{Log}[a+b\,x]+p\,r\,\text{Log}[h\,x]\,\text{Log}\left[i\left(j\left(h\,x\right)^t\right)^u\right]\,\text{Log}[a+b\,x]+\frac{1}{2}p\,r\,t\,u\,\text{Log}[h\,x]^2\,\text{Log}\left[1+\frac{b\,x}{a}\right]-p\,r\,\text{Log}[h\,x]\,\text{Log}\left[i\left(j\left(h\,x\right)^t\right)^u\right]\,\text{Log}\left[1+\frac{b\,x}{a}\right]+q\,r\,t\,u\,\text{Log}[x]\,\text{Log}[h\,x]\,\text{Log}[c+d\,x]-q\,r\,t\,u\,\text{Log}[h\,x]^2\,\text{Log}[c+d\,x]-q\,r\,\text{Log}[x]\,\text{Log}\left[i\left(j\left(h\,x\right)^t\right)^u\right]\,\text{Log}[c+d\,x]+q\,r\,\text{Log}[h\,x]\,\text{Log}\left[i\left(j\left(h\,x\right)^t\right)^u\right]\,\text{Log}[c+d\,x]-t\,u\,\text{Log}[x]\,\text{Log}[h\,x]\,\text{Log}\left[e\left(f\left(a+b\,x\right)^p\left(c+d\,x\right)^q\right)^r\right]+\frac{1}{2}t\,u\,\text{Log}[h\,x]^2\,\text{Log}\left[e\left(f\left(a+b\,x\right)^p\left(c+d\,x\right)^q\right)^r\right]+\text{Log}[x]\,\text{Log}\left[i\left(j\left(h\,x\right)^t\right)^u\right]\,\text{Log}\left[e\left(f\left(a+b\,x\right)^p\left(c+d\,x\right)^q\right)^r\right]+\frac{1}{2}q\,r\,t\,u\,\text{Log}[h\,x]^2\,\text{Log}\left[1+\frac{d\,x}{c}\right]-q\,r\,\text{Log}[h\,x]\,\text{Log}\left[i\left(j\left(h\,x\right)^t\right)^u\right]\,\text{Log}\left[1+\frac{d\,x}{c}\right]-p\,r\,\text{Log}\left[i\left(j\left(h\,x\right)^t\right)^u\right]\,\text{PolyLog}\left[2,-\frac{b\,x}{a}\right]-q\,r\,\text{Log}\left[i\left(j\left(h\,x\right)^t\right)^u\right]\,\text{PolyLog}\left[2,-\frac{d\,x}{c}\right]+p\,r\,t\,u\,\text{PolyLog}\left[3,-\frac{b\,x}{a}\right]+q\,r\,t\,u\,\text{PolyLog}\left[3,-\frac{d\,x}{c}\right]$$

Problem 67: Result more than twice size of optimal antiderivative.

$$\int\frac{\text{Log}\left[e\left(\frac{a+b\,x}{c+d\,x}\right)^n\right]^3\,\text{Log}\left[h\left(f+g\,x\right)^m\right]}{\left(a+b\,x\right)\left(c+d\,x\right)}\,\text{d}x$$

Optimal (type 4, 620 leaves, 14 steps):

$$\frac{m\,\text{Log}\left[e\left(\frac{a+b\,x}{c+d\,x}\right)^n\right]^4\,\text{Log}\left[\frac{b\,c-a\,d}{b\left(c+d\,x\right)}\right]}{4\left(b\,c-a\,d\right)n}+\frac{\text{Log}\left[e\left(\frac{a+b\,x}{c+d\,x}\right)^n\right]^4\,\text{Log}\left[h\left(f+g\,x\right)^m\right]}{4\left(b\,c-a\,d\right)n}-\frac{m\,\text{Log}\left[e\left(\frac{a+b\,x}{c+d\,x}\right)^n\right]^4\,\text{Log}\left[1-\frac{\left(d\,f-c\,g\right)\left(a+b\,x\right)}{\left(b\,f-a\,g\right)\left(c+d\,x\right)}\right]}{4\left(b\,c-a\,d\right)n}+\frac{m\,\text{Log}\left[e\left(\frac{a+b\,x}{c+d\,x}\right)^n\right]^3\,\text{PolyLog}\left[2,\frac{d\left(a+b\,x\right)}{b\left(c+d\,x\right)}\right]}{b\,c-a\,d}-\frac{m\,\text{Log}\left[e\left(\frac{a+b\,x}{c+d\,x}\right)^n\right]^3\,\text{PolyLog}\left[2,\frac{\left(d\,f-c\,g\right)\left(a+b\,x\right)}{\left(b\,f-a\,g\right)\left(c+d\,x\right)}\right]}{b\,c-a\,d}-\frac{3\,m\,n\,\text{Log}\left[e\left(\frac{a+b\,x}{c+d\,x}\right)^n\right]^2\,\text{PolyLog}\left[3,\frac{d\left(a+b\,x\right)}{b\left(c+d\,x\right)}\right]}{b\,c-a\,d}+\frac{3\,m\,n\,\text{Log}\left[e\left(\frac{a+b\,x}{c+d\,x}\right)^n\right]^2\,\text{PolyLog}\left[3,\frac{\left(d\,f-c\,g\right)\left(a+b\,x\right)}{\left(b\,f-a\,g\right)\left(c+d\,x\right)}\right]}{b\,c-a\,d}+\frac{6\,m\,n^2\,\text{Log}\left[e\left(\frac{a+b\,x}{c+d\,x}\right)^n\right]\,\text{PolyLog}\left[4,\frac{d\left(a+b\,x\right)}{b\left(c+d\,x\right)}\right]}{b\,c-a\,d}-\frac{6\,m\,n^2\,\text{Log}\left[e\left(\frac{a+b\,x}{c+d\,x}\right)^n\right]\,\text{PolyLog}\left[4,\frac{\left(d\,f-c\,g\right)\left(a+b\,x\right)}{\left(b\,f-a\,g\right)\left(c+d\,x\right)}\right]}{b\,c-a\,d}-\frac{6\,m\,n^3\,\text{PolyLog}\left[5,\frac{d\left(a+b\,x\right)}{b\left(c+d\,x\right)}\right]}{b\,c-a\,d}+\frac{6\,m\,n^3\,\text{PolyLog}\left[5,\frac{\left(d\,f-c\,g\right)\left(a+b\,x\right)}{\left(b\,f-a\,g\right)\left(c+d\,x\right)}\right]}{b\,c-a\,d}$$

Result (type 4, 31 404 leaves): Display of huge result suppressed!

Problem 68: Result more than twice size of optimal antiderivative.

$$\int \frac{\text{Log}\left[e \left(\frac{a+b x}{c+d x}\right)^n\right]^2 \text{Log}\left[h \left(f+g x\right)^m\right]}{\left(a+b x\right) \left(c+d x\right)} \, dx$$

Optimal (type 4, 496 leaves, 12 steps):

$$\frac{m \text{Log}\left[e \left(\frac{a+b x}{c+d x}\right)^n\right]^3 \text{Log}\left[\frac{b c-a d}{b (c+d x)}\right]}{3 \left(b c-a d\right) n} + \frac{\text{Log}\left[e \left(\frac{a+b x}{c+d x}\right)^n\right]^3 \text{Log}\left[h \left(f+g x\right)^m\right]}{3 \left(b c-a d\right) n} -$$

$$\frac{m \text{Log}\left[e \left(\frac{a+b x}{c+d x}\right)^n\right]^3 \text{Log}\left[1-\frac{(d f-c g) (a+b x)}{(b f-a g) (c+d x)}\right]}{3 \left(b c-a d\right) n} + \frac{m \text{Log}\left[e \left(\frac{a+b x}{c+d x}\right)^n\right]^2 \text{PolyLog}\left[2, \frac{d (a+b x)}{b (c+d x)}\right]}{b c-a d} -$$

$$\frac{m \text{Log}\left[e \left(\frac{a+b x}{c+d x}\right)^n\right]^2 \text{PolyLog}\left[2, \frac{(d f-c g) (a+b x)}{(b f-a g) (c+d x)}\right]}{b c-a d} - \frac{2 m n \text{Log}\left[e \left(\frac{a+b x}{c+d x}\right)^n\right] \text{PolyLog}\left[3, \frac{d (a+b x)}{b (c+d x)}\right]}{b c-a d} +$$

$$\frac{2 m n \text{Log}\left[e \left(\frac{a+b x}{c+d x}\right)^n\right] \text{PolyLog}\left[3, \frac{(d f-c g) (a+b x)}{(b f-a g) (c+d x)}\right]}{b c-a d} +$$

$$\frac{2 m n^2 \text{PolyLog}\left[4, \frac{d (a+b x)}{b (c+d x)}\right]}{b c-a d} - \frac{2 m n^2 \text{PolyLog}\left[4, \frac{(d f-c g) (a+b x)}{(b f-a g) (c+d x)}\right]}{b c-a d}$$

Result (type 4, 25 557 leaves): Display of huge result suppressed!

Problem 69: Result more than twice size of optimal antiderivative.

$$\int \frac{\text{Log}\left[e \left(\frac{a+b x}{c+d x}\right)^n\right] \text{Log}\left[h \left(f+g x\right)^m\right]}{\left(a+b x\right) \left(c+d x\right)} \, dx$$

Optimal (type 4, 371 leaves, 10 steps):

$$\frac{m \text{Log}\left[e \left(\frac{a+b x}{c+d x}\right)^n\right]^2 \text{Log}\left[\frac{b c-a d}{b (c+d x)}\right]}{2 \left(b c-a d\right) n} + \frac{\text{Log}\left[e \left(\frac{a+b x}{c+d x}\right)^n\right]^2 \text{Log}\left[h \left(f+g x\right)^m\right]}{2 \left(b c-a d\right) n} -$$

$$\frac{m \text{Log}\left[e \left(\frac{a+b x}{c+d x}\right)^n\right]^2 \text{Log}\left[1-\frac{(d f-c g) (a+b x)}{(b f-a g) (c+d x)}\right]}{2 \left(b c-a d\right) n} + \frac{m \text{Log}\left[e \left(\frac{a+b x}{c+d x}\right)^n\right] \text{PolyLog}\left[2, \frac{d (a+b x)}{b (c+d x)}\right]}{b c-a d} -$$

$$\frac{m \text{Log}\left[e \left(\frac{a+b x}{c+d x}\right)^n\right] \text{PolyLog}\left[2, \frac{(d f-c g) (a+b x)}{(b f-a g) (c+d x)}\right]}{b c-a d} -$$

$$\frac{m n \text{PolyLog}\left[3, \frac{d (a+b x)}{b (c+d x)}\right]}{b c-a d} + \frac{m n \text{PolyLog}\left[3, \frac{(d f-c g) (a+b x)}{(b f-a g) (c+d x)}\right]}{b c-a d}$$

Result (type 4, 6704 leaves):

$$\frac{1}{2 \left(b c-a d\right)} m \text{Log}\left[\frac{a+b x}{c+d x}\right] \left(n \text{Log}\left[\frac{a+b x}{c+d x}\right] + 2 \left(\text{Log}\left[e \left(\frac{a+b x}{c+d x}\right)^n\right] - n \text{Log}\left[\frac{a+b x}{c+d x}\right]\right)\right) \text{Log}\left[f+g x\right] -$$

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

$$\left((b c - a d)\ (b f - a g)\ (-d f + c g)\right) + \frac{c\left(\text{Log}\left[\frac{a}{b}+x\right]\ \text{Log}\left[1-\frac{d\left(\frac{a}{b}+x\right)}{-c+\frac{a d}{b}}\right]+\text{PolyLog}\left[2,\ \frac{d\left(\frac{a}{b}+x\right)}{-c+\frac{a d}{b}}\right]\right)}{b\left(-\frac{a}{b}+\frac{c}{d}\right) d^2\left(-\frac{c}{d}+\frac{f}{g}\right) g} +$$

$$\frac{f\left(\text{Log}\left[\frac{a}{b}+x\right]\ \text{Log}\left[1-\frac{g\left(\frac{a}{b}+x\right)}{-f+\frac{a g}{b}}\right]+\text{PolyLog}\left[2,\ \frac{g\left(\frac{a}{b}+x\right)}{-f+\frac{a g}{b}}\right]\right)}{b d\left(\frac{c}{d}-\frac{f}{g}\right)\left(-\frac{a}{b}+\frac{f}{g}\right) g^2} +$$

$$\frac{a\left(\text{Log}\left[\frac{c}{d}+x\right]\ \text{Log}\left[1-\frac{b\left(\frac{c}{d}+x\right)}{-a+\frac{b c}{d}}\right]+\text{PolyLog}\left[2,\ \frac{b\left(\frac{c}{d}+x\right)}{-a+\frac{b c}{d}}\right]\right)}{b^2\left(-\frac{a}{b}+\frac{c}{d}\right) d\left(-\frac{a}{b}+\frac{f}{g}\right) g} -$$

$$\frac{f\left(\text{Log}\left[\frac{c}{d}+x\right]\ \text{Log}\left[1-\frac{g\left(\frac{c}{d}+x\right)}{-f+\frac{c g}{d}}\right]+\text{PolyLog}\left[2,\ \frac{g\left(\frac{c}{d}+x\right)}{-f+\frac{c g}{d}}\right]\right)}{b d\left(\frac{c}{d}-\frac{f}{g}\right)\left(-\frac{a}{b}+\frac{f}{g}\right) g^2}\Bigg) +$$

$$\frac{1}{-b c + a d}\, a d g m\left(\text{Log}\left[e\left(\frac{a+b x}{c+d x}\right)^n\right] - n\,\text{Log}\left[\frac{a+b x}{c+d x}\right]\right)$$

$$\Bigg(-\frac{a\,\text{Log}\left[\frac{a}{b}+x\right]^2}{2 b^2\left(-\frac{a}{b}+\frac{c}{d}\right) d\left(-\frac{a}{b}+\frac{f}{g}\right) g} - \frac{c\,\text{Log}\left[\frac{c}{d}+x\right]^2}{2 b\left(-\frac{a}{b}+\frac{c}{d}\right) d^2\left(-\frac{c}{d}+\frac{f}{g}\right) g} +$$

$$\Big(\left(a\left(d f - c g\right)\text{Log}[a+b x] + \left(-b c f + a c g\right)\text{Log}[c+d x] + \left(b c - a d\right) f\,\text{Log}[f+g x]\right)$$

$$\left(-\text{Log}\left[\frac{a}{b}+x\right] + \text{Log}\left[\frac{c}{d}+x\right] + \text{Log}\left[\frac{a}{c+d x}+\frac{b x}{c+d x}\right]\right)\Big)\Big/$$

$$\left((b c - a d)\ (b f - a g)\ (-d f + c g)\right) + \frac{c\left(\text{Log}\left[\frac{a}{b}+x\right]\ \text{Log}\left[1-\frac{d\left(\frac{a}{b}+x\right)}{-c+\frac{a d}{b}}\right]+\text{PolyLog}\left[2,\ \frac{d\left(\frac{a}{b}+x\right)}{-c+\frac{a d}{b}}\right]\right)}{b\left(-\frac{a}{b}+\frac{c}{d}\right) d^2\left(-\frac{c}{d}+\frac{f}{g}\right) g} +$$

$$\frac{f\left(\text{Log}\left[\frac{a}{b}+x\right]\ \text{Log}\left[1-\frac{g\left(\frac{a}{b}+x\right)}{-f+\frac{a g}{b}}\right]+\text{PolyLog}\left[2,\ \frac{g\left(\frac{a}{b}+x\right)}{-f+\frac{a g}{b}}\right]\right)}{b d\left(\frac{c}{d}-\frac{f}{g}\right)\left(-\frac{a}{b}+\frac{f}{g}\right) g^2} +$$

$$\frac{a\left(\text{Log}\left[\frac{c}{d}+x\right]\ \text{Log}\left[1-\frac{b\left(\frac{c}{d}+x\right)}{-a+\frac{b c}{d}}\right]+\text{PolyLog}\left[2,\ \frac{b\left(\frac{c}{d}+x\right)}{-a+\frac{b c}{d}}\right]\right)}{b^2\left(-\frac{a}{b}+\frac{c}{d}\right) d\left(-\frac{a}{b}+\frac{f}{g}\right) g} -$$

$$\frac{f\left(\text{Log}\left[\frac{c}{d}+x\right]\ \text{Log}\left[1-\frac{g\left(\frac{c}{d}+x\right)}{-f+\frac{c g}{d}}\right]+\text{PolyLog}\left[2,\ \frac{g\left(\frac{c}{d}+x\right)}{-f+\frac{c g}{d}}\right]\right)}{b d\left(\frac{c}{d}-\frac{f}{g}\right)\left(-\frac{a}{b}+\frac{f}{g}\right) g^2}\Bigg) -$$

$$\frac{1}{-b c+a d} b c g n \left(-m \operatorname{Log}[f+g x]+\operatorname{Log}\left[h (f+g x)^m\right]\right)$$

$$\left(-\frac{a \operatorname{Log}\left[\frac{a}{b}+x\right]^2}{2 b^2 \left(-\frac{a}{b}+\frac{c}{d}\right) d \left(-\frac{a}{b}+\frac{f}{g}\right) g}-\frac{c \operatorname{Log}\left[\frac{c}{d}+x\right]^2}{2 b \left(-\frac{a}{b}+\frac{c}{d}\right) d^2 \left(-\frac{c}{d}+\frac{f}{g}\right) g}+\right.$$

$$\left(\left(a (d f-c g) \operatorname{Log}[a+b x]+(-b c f+a c g) \operatorname{Log}[c+d x]+(b c-a d) f \operatorname{Log}[f+g x]\right)\right.$$

$$\left.\left(-\operatorname{Log}\left[\frac{a}{b}+x\right]+\operatorname{Log}\left[\frac{c}{d}+x\right]+\operatorname{Log}\left[\frac{a}{c+d x}+\frac{b x}{c+d x}\right]\right)\right)\Big/$$

$$\left((b c-a d) (b f-a g) (-d f+c g)\right)+\frac{c \left(\operatorname{Log}\left[\frac{a}{b}+x\right] \operatorname{Log}\left[1-\frac{d \left(\frac{a}{b}+x\right)}{-c+\frac{a d}{b}}\right]+\operatorname{PolyLog}\left[2, \frac{d \left(\frac{a}{b}+x\right)}{-c+\frac{a d}{b}}\right]\right)}{b \left(-\frac{a}{b}+\frac{c}{d}\right) d^2 \left(-\frac{c}{d}+\frac{f}{g}\right) g}+$$

$$\frac{f \left(\operatorname{Log}\left[\frac{a}{b}+x\right] \operatorname{Log}\left[1-\frac{g \left(\frac{a}{b}+x\right)}{-f+\frac{a g}{b}}\right]+\operatorname{PolyLog}\left[2, \frac{g \left(\frac{a}{b}+x\right)}{-f+\frac{a g}{b}}\right]\right)}{b d \left(\frac{c}{d}-\frac{f}{g}\right) \left(-\frac{a}{b}+\frac{f}{g}\right) g^2}+$$

$$\frac{a \left(\operatorname{Log}\left[\frac{c}{d}+x\right] \operatorname{Log}\left[1-\frac{b \left(\frac{c}{d}+x\right)}{-a+\frac{b c}{d}}\right]+\operatorname{PolyLog}\left[2, \frac{b \left(\frac{c}{d}+x\right)}{-a+\frac{b c}{d}}\right]\right)}{b^2 \left(-\frac{a}{b}+\frac{c}{d}\right) d \left(-\frac{a}{b}+\frac{f}{g}\right) g}-$$

$$\left.\frac{f \left(\operatorname{Log}\left[\frac{c}{d}+x\right] \operatorname{Log}\left[1-\frac{g \left(\frac{c}{d}+x\right)}{-f+\frac{c g}{d}}\right]+\operatorname{PolyLog}\left[2, \frac{g \left(\frac{c}{d}+x\right)}{-f+\frac{c g}{d}}\right]\right)}{b d \left(\frac{c}{d}-\frac{f}{g}\right) \left(-\frac{a}{b}+\frac{f}{g}\right) g^2}\right)+$$

$$\frac{1}{-b c+a d} a d g n \left(-m \operatorname{Log}[f+g x]+\operatorname{Log}\left[h (f+g x)^m\right]\right)$$

$$\left(-\frac{a \operatorname{Log}\left[\frac{a}{b}+x\right]^2}{2 b^2 \left(-\frac{a}{b}+\frac{c}{d}\right) d \left(-\frac{a}{b}+\frac{f}{g}\right) g}-\frac{c \operatorname{Log}\left[\frac{c}{d}+x\right]^2}{2 b \left(-\frac{a}{b}+\frac{c}{d}\right) d^2 \left(-\frac{c}{d}+\frac{f}{g}\right) g}+\right.$$

$$\left(\left(a (d f-c g) \operatorname{Log}[a+b x]+(-b c f+a c g) \operatorname{Log}[c+d x]+(b c-a d) f \operatorname{Log}[f+g x]\right)\right.$$

$$\left.\left(-\operatorname{Log}\left[\frac{a}{b}+x\right]+\operatorname{Log}\left[\frac{c}{d}+x\right]+\operatorname{Log}\left[\frac{a}{c+d x}+\frac{b x}{c+d x}\right]\right)\right)\Big/$$

$$\left((b c-a d) (b f-a g) (-d f+c g)\right)+\frac{c \left(\operatorname{Log}\left[\frac{a}{b}+x\right] \operatorname{Log}\left[1-\frac{d \left(\frac{a}{b}+x\right)}{-c+\frac{a d}{b}}\right]+\operatorname{PolyLog}\left[2, \frac{d \left(\frac{a}{b}+x\right)}{-c+\frac{a d}{b}}\right]\right)}{b \left(-\frac{a}{b}+\frac{c}{d}\right) d^2 \left(-\frac{c}{d}+\frac{f}{g}\right) g}+$$

$$\frac{f\left(\text{Log}\left[\frac{a}{b}+x\right]\text{Log}\left[1-\frac{g\left(\frac{a}{b}+x\right)}{-f+\frac{a g}{b}}\right]+\text{PolyLog}\left[2,\frac{g\left(\frac{a}{b}+x\right)}{-f+\frac{a g}{b}}\right]\right)}{b d\left(\frac{c}{d}-\frac{f}{g}\right)\left(-\frac{a}{b}+\frac{f}{g}\right)g^2}+$$

$$\frac{a\left(\text{Log}\left[\frac{c}{d}+x\right]\text{Log}\left[1-\frac{b\left(\frac{c}{d}+x\right)}{-a+\frac{b c}{d}}\right]+\text{PolyLog}\left[2,\frac{b\left(\frac{c}{d}+x\right)}{-a+\frac{b c}{d}}\right]\right)}{b^2\left(-\frac{a}{b}+\frac{c}{d}\right)d\left(-\frac{a}{b}+\frac{f}{g}\right)g}-$$

$$\left.\frac{f\left(\text{Log}\left[\frac{c}{d}+x\right]\text{Log}\left[1-\frac{g\left(\frac{c}{d}+x\right)}{-f+\frac{c g}{d}}\right]+\text{PolyLog}\left[2,\frac{g\left(\frac{c}{d}+x\right)}{-f+\frac{c g}{d}}\right]\right)}{b d\left(\frac{c}{d}-\frac{f}{g}\right)\left(-\frac{a}{b}+\frac{f}{g}\right)g^2}\right)+$$

$$\frac{1}{-b c+a d}a c g m\left(\text{Log}\left[e\left(\frac{a+b x}{c+d x}\right)^n\right]-n\text{Log}\left[\frac{a+b x}{c+d x}\right]\right)$$

$$\left(\frac{\text{Log}\left[\frac{a}{b}+x\right]^2}{2b\left(-\frac{a}{b}+\frac{c}{d}\right)d\left(-\frac{a}{b}+\frac{f}{g}\right)g}+\frac{\text{Log}\left[\frac{c}{d}+x\right]^2}{2b\left(-\frac{a}{b}+\frac{c}{d}\right)d\left(-\frac{c}{d}+\frac{f}{g}\right)g}+\right.$$

$$\left(\left(b\left(-d f+c g\right)\text{Log}[a+b x]+d\left(b f-a g\right)\text{Log}[c+d x]+\left(-b c+a d\right)g\,\text{Log}[f+g x]\right)\right.$$

$$\left.\left.\left(-\text{Log}\left[\frac{a}{b}+x\right]+\text{Log}\left[\frac{c}{d}+x\right]+\text{Log}\left[\frac{a}{c+d x}+\frac{b x}{c+d x}\right]\right)\right)\Big/$$

$$\left(\left(b c-a d\right)\left(b f-a g\right)\left(-d f+c g\right)\right)-\frac{\text{Log}\left[\frac{a}{b}+x\right]\text{Log}\left[1-\frac{d\left(\frac{a}{b}+x\right)}{-c+\frac{a d}{b}}\right]+\text{PolyLog}\left[2,\frac{d\left(\frac{a}{b}+x\right)}{-c+\frac{a d}{b}}\right]}{b\left(-\frac{a}{b}+\frac{c}{d}\right)d\left(-\frac{c}{d}+\frac{f}{g}\right)g}-$$

$$\frac{\text{Log}\left[\frac{a}{b}+x\right]\text{Log}\left[1-\frac{g\left(\frac{a}{b}+x\right)}{-f+\frac{a g}{b}}\right]+\text{PolyLog}\left[2,\frac{g\left(\frac{a}{b}+x\right)}{-f+\frac{a g}{b}}\right]}{b d\left(\frac{c}{d}-\frac{f}{g}\right)\left(-\frac{a}{b}+\frac{f}{g}\right)g}-$$

$$\frac{\text{Log}\left[\frac{c}{d}+x\right]\text{Log}\left[1-\frac{b\left(\frac{c}{d}+x\right)}{-a+\frac{b c}{d}}\right]+\text{PolyLog}\left[2,\frac{b\left(\frac{c}{d}+x\right)}{-a+\frac{b c}{d}}\right]}{b\left(-\frac{a}{b}+\frac{c}{d}\right)d\left(-\frac{a}{b}+\frac{f}{g}\right)g}+$$

$$\left.\frac{\text{Log}\left[\frac{c}{d}+x\right]\text{Log}\left[1-\frac{g\left(\frac{c}{d}+x\right)}{-f+\frac{c g}{d}}\right]+\text{PolyLog}\left[2,\frac{g\left(\frac{c}{d}+x\right)}{-f+\frac{c g}{d}}\right]}{b d\left(\frac{c}{d}-\frac{f}{g}\right)\left(-\frac{a}{b}+\frac{f}{g}\right)g}\right)-$$

$$\frac{1}{-b c+a d}b c f n\left(-m\,\text{Log}[f+g x]+\text{Log}\left[h\left(f+g x\right)^m\right]\right)$$

$$\left(\frac{\text{Log}\left[\frac{a}{b}+x\right]^2}{2\,b\left(-\frac{a}{b}+\frac{c}{d}\right)d\left(-\frac{a}{b}+\frac{f}{g}\right)g}+\frac{\text{Log}\left[\frac{c}{d}+x\right]^2}{2\,b\left(-\frac{a}{b}+\frac{c}{d}\right)d\left(-\frac{c}{d}+\frac{f}{g}\right)g}+\right.$$

$$\left(\left(b\left(-d\,f+c\,g\right)\text{Log}[a+b\,x]+d\left(b\,f-a\,g\right)\text{Log}[c+d\,x]+\left(-b\,c+a\,d\right)g\,\text{Log}[f+g\,x]\right)\right.$$

$$\left.\left.\left(-\text{Log}\left[\frac{a}{b}+x\right]+\text{Log}\left[\frac{c}{d}+x\right]+\text{Log}\left[\frac{a}{c+d\,x}+\frac{b\,x}{c+d\,x}\right]\right)\right)\Big/$$

$$\left(\left(b\,c-a\,d\right)\left(b\,f-a\,g\right)\left(-d\,f+c\,g\right)\right)-\frac{\text{Log}\left[\frac{a}{b}+x\right]\text{Log}\left[1-\frac{d\left(\frac{a}{b}+x\right)}{-c+\frac{a\,d}{b}}\right]+\text{PolyLog}\left[2,\frac{d\left(\frac{a}{b}+x\right)}{-c+\frac{a\,d}{b}}\right]}{b\left(-\frac{a}{b}+\frac{c}{d}\right)d\left(-\frac{c}{d}+\frac{f}{g}\right)g}-$$

$$\frac{\text{Log}\left[\frac{a}{b}+x\right]\text{Log}\left[1-\frac{g\left(\frac{a}{b}+x\right)}{-f+\frac{a\,g}{b}}\right]+\text{PolyLog}\left[2,\frac{g\left(\frac{a}{b}+x\right)}{-f+\frac{a\,g}{b}}\right]}{b\,d\left(\frac{c}{d}-\frac{f}{g}\right)\left(-\frac{a}{b}+\frac{f}{g}\right)g}-$$

$$\frac{\text{Log}\left[\frac{c}{d}+x\right]\text{Log}\left[1-\frac{b\left(\frac{c}{d}+x\right)}{-a+\frac{b\,c}{d}}\right]+\text{PolyLog}\left[2,\frac{b\left(\frac{c}{d}+x\right)}{-a+\frac{b\,c}{d}}\right]}{b\left(-\frac{a}{b}+\frac{c}{d}\right)d\left(-\frac{a}{b}+\frac{f}{g}\right)g}+$$

$$\left.\frac{\text{Log}\left[\frac{c}{d}+x\right]\text{Log}\left[1-\frac{g\left(\frac{c}{d}+x\right)}{-f+\frac{c\,g}{d}}\right]+\text{PolyLog}\left[2,\frac{g\left(\frac{c}{d}+x\right)}{-f+\frac{c\,g}{d}}\right]}{b\,d\left(\frac{c}{d}-\frac{f}{g}\right)\left(-\frac{a}{b}+\frac{f}{g}\right)g}\right)+$$

$$\frac{1}{-b\,c+a\,d}a\,d\,f\,n\left(-m\,\text{Log}[f+g\,x]+\text{Log}\left[h\left(f+g\,x\right)^m\right]\right)$$

$$\left(\frac{\text{Log}\left[\frac{a}{b}+x\right]^2}{2\,b\left(-\frac{a}{b}+\frac{c}{d}\right)d\left(-\frac{a}{b}+\frac{f}{g}\right)g}+\frac{\text{Log}\left[\frac{c}{d}+x\right]^2}{2\,b\left(-\frac{a}{b}+\frac{c}{d}\right)d\left(-\frac{c}{d}+\frac{f}{g}\right)g}+\right.$$

$$\left(\left(b\left(-d\,f+c\,g\right)\text{Log}[a+b\,x]+d\left(b\,f-a\,g\right)\text{Log}[c+d\,x]+\left(-b\,c+a\,d\right)g\,\text{Log}[f+g\,x]\right)\right.$$

$$\left.\left.\left(-\text{Log}\left[\frac{a}{b}+x\right]+\text{Log}\left[\frac{c}{d}+x\right]+\text{Log}\left[\frac{a}{c+d\,x}+\frac{b\,x}{c+d\,x}\right]\right)\right)\Big/$$

$$\left(\left(b\,c-a\,d\right)\left(b\,f-a\,g\right)\left(-d\,f+c\,g\right)\right)-\frac{\text{Log}\left[\frac{a}{b}+x\right]\text{Log}\left[1-\frac{d\left(\frac{a}{b}+x\right)}{-c+\frac{a\,d}{b}}\right]+\text{PolyLog}\left[2,\frac{d\left(\frac{a}{b}+x\right)}{-c+\frac{a\,d}{b}}\right]}{b\left(-\frac{a}{b}+\frac{c}{d}\right)d\left(-\frac{c}{d}+\frac{f}{g}\right)g}-$$

$$\frac{\text{Log}\left[\frac{a}{b}+x\right]\text{Log}\left[1-\frac{g\left(\frac{a}{b}+x\right)}{-f+\frac{a\,g}{b}}\right]+\text{PolyLog}\left[2,\frac{g\left(\frac{a}{b}+x\right)}{-f+\frac{a\,g}{b}}\right]}{b\,d\left(\frac{c}{d}-\frac{f}{g}\right)\left(-\frac{a}{b}+\frac{f}{g}\right)g}-$$

$$\frac{\text{Log}\left[\frac{c}{d}+x\right]\text{Log}\left[1-\frac{b\left(\frac{c}{d}+x\right)}{-a+\frac{b c}{d}}\right]+\text{PolyLog}\left[2,\frac{b\left(\frac{c}{d}+x\right)}{-a+\frac{b c}{d}}\right]}{b\left(-\frac{a}{b}+\frac{c}{d}\right)d\left(-\frac{a}{b}+\frac{f}{g}\right)g}+$$

$$\left.\frac{\text{Log}\left[\frac{c}{d}+x\right]\text{Log}\left[1-\frac{g\left(\frac{c}{d}+x\right)}{-f+\frac{c g}{d}}\right]+\text{PolyLog}\left[2,\frac{g\left(\frac{c}{d}+x\right)}{-f+\frac{c g}{d}}\right]}{b d\left(\frac{c}{d}-\frac{f}{g}\right)\left(-\frac{a}{b}+\frac{f}{g}\right)g}\right)-$$

$$\frac{1}{2\left(b c-a d\right)}g m n\left(\frac{\text{Log}[f+g x]\left(-\text{Log}\left[\frac{a}{b}+x\right]+\text{Log}\left[\frac{c}{d}+x\right]+\text{Log}\left[\frac{a}{c+d x}+\frac{b x}{c+d x}\right]\right)^2}{g}+\right.$$

$$2\left(-\text{Log}\left[\frac{a}{b}+x\right]+\text{Log}\left[\frac{c}{d}+x\right]+\text{Log}\left[\frac{a}{c+d x}+\frac{b x}{c+d x}\right]\right)$$

$$\left(\frac{\text{Log}\left[\frac{a}{b}+x\right]\text{Log}\left[1-\frac{g\left(\frac{a}{b}+x\right)}{-f+\frac{a g}{b}}\right]+\text{PolyLog}\left[2,\frac{g\left(\frac{a}{b}+x\right)}{-f+\frac{a g}{b}}\right]}{g}-\right.$$

$$\left.\left.\frac{\text{Log}\left[\frac{c}{d}+x\right]\text{Log}\left[1-\frac{g\left(\frac{c}{d}+x\right)}{-f+\frac{c g}{d}}\right]+\text{PolyLog}\left[2,\frac{g\left(\frac{c}{d}+x\right)}{-f+\frac{c g}{d}}\right]}{g}\right)+\frac{1}{g}\right.$$

$$2\left(\frac{1}{2}\text{Log}\left[\frac{a}{b}+x\right]^2\text{Log}\left[1-\frac{g\left(\frac{a}{b}+x\right)}{-f+\frac{a g}{b}}\right]+\text{Log}\left[\frac{a}{b}+x\right]\text{PolyLog}\left[2,\frac{g\left(\frac{a}{b}+x\right)}{-f+\frac{a g}{b}}\right]-\right.$$

$$\left.\text{PolyLog}\left[3,\frac{g\left(\frac{a}{b}+x\right)}{-f+\frac{a g}{b}}\right]\right)+\frac{1}{g}2\left(\frac{1}{2}\text{Log}\left[\frac{c}{d}+x\right]^2\text{Log}\left[1-\frac{g\left(\frac{c}{d}+x\right)}{-f+\frac{c g}{d}}\right]+\right.$$

$$\left.\text{Log}\left[\frac{c}{d}+x\right]\text{PolyLog}\left[2,\frac{g\left(\frac{c}{d}+x\right)}{-f+\frac{c g}{d}}\right]-\text{PolyLog}\left[3,\frac{g\left(\frac{c}{d}+x\right)}{-f+\frac{c g}{d}}\right]\right)-$$

$$\frac{1}{g}2\left(\text{Log}\left[\frac{a}{b}+x\right]\text{Log}\left[\frac{c}{d}+x\right]\text{Log}\left[\frac{b\left(f+g x\right)}{b f-a g}\right]+\frac{1}{2}\text{Log}\left[\frac{d g\left(\frac{c}{d}+x\right)}{-d f+c g}\right]\right.$$

$$\left(-2\,\text{Log}\left[\frac{a}{b}+x\right]+\text{Log}\left[\frac{d g\left(\frac{c}{d}+x\right)}{-d f+c g}\right]\right)\left(\text{Log}\left[\frac{b\left(f+g x\right)}{b f-a g}\right]-\text{Log}\left[-\frac{d\left(f+g x\right)}{-d f+c g}\right]\right)+$$

$$\left.\text{Log}\left[\frac{d g\left(\frac{c}{d}+x\right)}{-d f+c g}\right]\text{Log}\left[-\frac{d\left(b f-a g\right)\left(\frac{c}{d}+x\right)}{b\left(-d f+c g\right)\left(\frac{a}{b}+x\right)}\right]\left(-\text{Log}\left[\frac{b\left(f+g x\right)}{b f-a g}\right]+\text{Log}\left[-\frac{d\left(f+g x\right)}{-d f+c g}\right]\right)+\right.$$

$$\frac{1}{2}\,\text{Log}\left[-\frac{d\,(b\,f-a\,g)\,\left(\frac{c}{d}+x\right)}{b\,(-d\,f+c\,g)\,\left(\frac{a}{b}+x\right)}\right]^2\left(\text{Log}\left[\frac{-b\,c+a\,d}{b\,d\,\left(\frac{a}{b}+x\right)}\right]+\text{Log}\left[\frac{b\,(f+g\,x)}{b\,f-a\,g}\right]-\text{Log}\left[-\frac{(-b\,c+a\,d)\,(f+g\,x)}{b\,(-d\,f+c\,g)\,\left(\frac{a}{b}+x\right)}\right]\right)+\left(\text{Log}\left[\frac{c}{d}+x\right]-\text{Log}\left[-\frac{d\,(b\,f-a\,g)\,\left(\frac{c}{d}+x\right)}{b\,(-d\,f+c\,g)\,\left(\frac{a}{b}+x\right)}\right]\right)\text{PolyLog}\left[2,-\frac{b\,g\,\left(\frac{a}{b}+x\right)}{b\,f-a\,g}\right]+\left(\text{Log}\left[\frac{a}{b}+x\right]+\text{Log}\left[-\frac{d\,(b\,f-a\,g)\,\left(\frac{c}{d}+x\right)}{b\,(-d\,f+c\,g)\,\left(\frac{a}{b}+x\right)}\right]\right)\text{PolyLog}\left[2,\frac{d\,g\,\left(\frac{c}{d}+x\right)}{-d\,f+c\,g}\right]+\text{Log}\left[-\frac{d\,(b\,f-a\,g)\,\left(\frac{c}{d}+x\right)}{b\,(-d\,f+c\,g)\,\left(\frac{a}{b}+x\right)}\right]\left(\text{PolyLog}\left[2,\frac{\frac{c}{d}+x}{\frac{a}{b}+x}\right]-\text{PolyLog}\left[2,-\frac{d\,(b\,f-a\,g)\,\left(\frac{c}{d}+x\right)}{b\,(-d\,f+c\,g)\,\left(\frac{a}{b}+x\right)}\right]\right)-\text{PolyLog}\left[3,-\frac{b\,g\,\left(\frac{a}{b}+x\right)}{b\,f-a\,g}\right]-\text{PolyLog}\left[3,\frac{d\,g\,\left(\frac{c}{d}+x\right)}{-d\,f+c\,g}\right]-\text{PolyLog}\left[3,\frac{\frac{c}{d}+x}{\frac{a}{b}+x}\right]+\text{PolyLog}\left[3,-\frac{d\,(b\,f-a\,g)\,\left(\frac{c}{d}+x\right)}{b\,(-d\,f+c\,g)\,\left(\frac{a}{b}+x\right)}\right]\Bigg)$$

Problem 90: Unable to integrate problem.

$$\int\frac{\text{Log}\left[\frac{a}{a+b\,x}\right]\text{Log}\left[\frac{c\,x}{a+b\,x}\right]^2}{x\,(a+b\,x)}\,\text{d}x$$

Optimal (type 4, 82 leaves, 3 steps):

$$-\frac{\text{Log}\left[\frac{c\,x}{a+b\,x}\right]^2\text{PolyLog}\left[2,1-\frac{a}{a+b\,x}\right]}{a}+\frac{2\,\text{Log}\left[\frac{c\,x}{a+b\,x}\right]\text{PolyLog}\left[3,1-\frac{a}{a+b\,x}\right]}{a}-\frac{2\,\text{PolyLog}\left[4,1-\frac{a}{a+b\,x}\right]}{a}$$

Result (type 8, 36 leaves):

$$\int\frac{\text{Log}\left[\frac{a}{a+b\,x}\right]\text{Log}\left[\frac{c\,x}{a+b\,x}\right]^2}{x\,(a+b\,x)}\,\text{d}x$$

Problem 91: Unable to integrate problem.

$$\int\frac{\text{Log}\left[\frac{b\,c-a\,d}{b\,(c+d\,x)}\right]\text{Log}\left[\frac{e\,(a+b\,x)}{c+d\,x}\right]^2}{(c+d\,x)\,(a\,g+b\,g\,x)}\,\text{d}x$$

Optimal (type 4, 150 leaves, 3 steps):

$$-\frac{\text{Log}\left[\frac{e\,(a+b\,x)}{c+d\,x}\right]^2\,\text{PolyLog}\left[2,\,1-\frac{b\,c-a\,d}{b\,(c+d\,x)}\right]}{(b\,c-a\,d)\,g}+$$

$$\frac{2\,\text{Log}\left[\frac{e\,(a+b\,x)}{c+d\,x}\right]\,\text{PolyLog}\left[3,\,1-\frac{b\,c-a\,d}{b\,(c+d\,x)}\right]}{(b\,c-a\,d)\,g}-\frac{2\,\text{PolyLog}\left[4,\,1-\frac{b\,c-a\,d}{b\,(c+d\,x)}\right]}{(b\,c-a\,d)\,g}$$

Result (type 8, 57 leaves):

$$\int\frac{\text{Log}\left[\frac{b\,c-a\,d}{b\,(c+d\,x)}\right]\,\text{Log}\left[\frac{e\,(a+b\,x)}{c+d\,x}\right]^2}{(c+d\,x)\,(a\,g+b\,g\,x)}\,\text{d}x$$

Problem 92: Result more than twice size of optimal antiderivative.

$$\int\frac{\text{Log}\left[e\left(\frac{a+b\,x}{c+d\,x}\right)^n\right]^2\,\text{Log}\left[\frac{b\,c-a\,d}{b\,(c+d\,x)}\right]}{(c+d\,x)\,(a\,g+b\,g\,x)}\,\text{d}x$$

Optimal (type 4, 160 leaves, 3 steps):

$$-\frac{\text{Log}\left[e\left(\frac{a+b\,x}{c+d\,x}\right)^n\right]^2\,\text{PolyLog}\left[2,\,1-\frac{b\,c-a\,d}{b\,(c+d\,x)}\right]}{(b\,c-a\,d)\,g}+$$

$$\frac{2\,n\,\text{Log}\left[e\left(\frac{a+b\,x}{c+d\,x}\right)^n\right]\,\text{PolyLog}\left[3,\,1-\frac{b\,c-a\,d}{b\,(c+d\,x)}\right]}{(b\,c-a\,d)\,g}-\frac{2\,n^2\,\text{PolyLog}\left[4,\,1-\frac{b\,c-a\,d}{b\,(c+d\,x)}\right]}{(b\,c-a\,d)\,g}$$

Result (type 4, 785 leaves):

$$\frac{1}{3\,(b\,c-a\,d)\,g}\left(\text{Log}\left[\frac{a+b\,x}{c+d\,x}\right]\left(3\,\text{Log}\left[e\left(\frac{a+b\,x}{c+d\,x}\right)^n\right]^2-3\,n\,\text{Log}\left[e\left(\frac{a+b\,x}{c+d\,x}\right)^n\right]\text{Log}\left[\frac{a+b\,x}{c+d\,x}\right]+n^2\,\text{Log}\left[\frac{a+b\,x}{c+d\,x}\right]^2\right)\right.$$
$$\text{Log}\left[\frac{b\,c-a\,d}{b\,c+b\,d\,x}\right]+\frac{3}{2}\left(\text{Log}\left[e\left(\frac{a+b\,x}{c+d\,x}\right)^n\right]-n\,\text{Log}\left[\frac{a+b\,x}{c+d\,x}\right]\right)^2$$
$$\left(-\text{Log}\left[\frac{c}{d}+x\right]^2-2\,\text{Log}\left[\frac{a}{b}+x\right]\text{Log}[c+d\,x]+2\,\text{Log}\left[\frac{c}{d}+x\right]\text{Log}[c+d\,x]+\right.$$
$$\left.2\,\text{Log}\left[\frac{a+b\,x}{c+d\,x}\right]\text{Log}[c+d\,x]+2\,\text{Log}\left[\frac{a}{b}+x\right]\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]+2\,\text{PolyLog}\left[2,\,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]\right)+$$
$$n\left(\text{Log}\left[e\left(\frac{a+b\,x}{c+d\,x}\right)^n\right]-n\,\text{Log}\left[\frac{a+b\,x}{c+d\,x}\right]\right)$$
$$\left(\text{Log}\left[\frac{c}{d}+x\right]^3+3\,\text{Log}\left[\frac{c}{d}+x\right]^2\left(-\text{Log}\left[\frac{a}{b}+x\right]+\text{Log}\left[\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]\right)+\right.$$
$$3\left(-\text{Log}\left[\frac{a}{b}+x\right]+\text{Log}\left[\frac{c}{d}+x\right]+\text{Log}\left[\frac{a+b\,x}{c+d\,x}\right]\right)^2\text{Log}[c+d\,x]+3\,\text{Log}\left[\frac{a}{b}+x\right]^2\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]+$$
$$6\,\text{Log}\left[\frac{a}{b}+x\right]\text{PolyLog}\left[2,\,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]+3\left(\text{Log}\left[\frac{a}{b}+x\right]-\text{Log}\left[\frac{c}{d}+x\right]-\text{Log}\left[\frac{a+b\,x}{c+d\,x}\right]\right)$$
$$\left(\text{Log}\left[\frac{c}{d}+x\right]^2-2\left(\text{Log}\left[\frac{a}{b}+x\right]\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]+\text{PolyLog}\left[2,\,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]\right)\right)+6\,\text{Log}\left[\frac{c}{d}+x\right]$$
$$\text{PolyLog}\left[2,\,\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]-6\,\text{PolyLog}\left[3,\,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]-6\,\text{PolyLog}\left[3,\,\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]\Bigg)-$$
$$n^2\left(\text{Log}\left[\frac{a+b\,x}{c+d\,x}\right]^3\text{Log}\left[\frac{b\,c-a\,d}{b\,c+b\,d\,x}\right]+3\,\text{Log}\left[\frac{a+b\,x}{c+d\,x}\right]^2\text{PolyLog}\left[2,\,\frac{d\,(a+b\,x)}{b\,(c+d\,x)}\right]-\right.$$
$$\left.\left.6\,\text{Log}\left[\frac{a+b\,x}{c+d\,x}\right]\text{PolyLog}\left[3,\,\frac{d\,(a+b\,x)}{b\,(c+d\,x)}\right]+6\,\text{PolyLog}\left[4,\,\frac{d\,(a+b\,x)}{b\,(c+d\,x)}\right]\right)\right)$$

Problem 98: Unable to integrate problem.

$$\int\text{Log}\left[\frac{c\,(b+a\,x)^2}{x^2}\right]^3\,dx$$

Optimal (type 4, 102 leaves, 5 steps):

$$x\,\text{Log}\left[\frac{c\,(b+a\,x)^2}{x^2}\right]^3-\frac{6\,b\,\text{Log}\left[\frac{c\,(b+a\,x)^2}{x^2}\right]^2\text{Log}\left[1-\frac{a\,x}{b+a\,x}\right]}{a}+$$
$$\frac{24\,b\,\text{Log}\left[\frac{c\,(b+a\,x)^2}{x^2}\right]\text{PolyLog}\left[2,\,\frac{a\,x}{b+a\,x}\right]}{a}+\frac{48\,b\,\text{PolyLog}\left[3,\,\frac{a\,x}{b+a\,x}\right]}{a}$$

Result (type 8, 17 leaves):

$$\int\text{Log}\left[\frac{c\,(b+a\,x)^2}{x^2}\right]^3\,dx$$

Problem 101: Unable to integrate problem.

$$\int \text{Log}\left[\frac{c\,x^2}{(b+a\,x)^2}\right]^3 dx$$

Optimal (type 4, 98 leaves, 5 steps):

$$x\,\text{Log}\left[\frac{c\,x^2}{(b+a\,x)^2}\right]^3 + \frac{6\,b\,\text{Log}\left[\frac{c\,x^2}{(b+a\,x)^2}\right]^2 \text{Log}\left[\frac{b}{b+a\,x}\right]}{a} + \frac{24\,b\,\text{Log}\left[\frac{c\,x^2}{(b+a\,x)^2}\right]\text{PolyLog}\left[2,\frac{a\,x}{b+a\,x}\right]}{a} - \frac{48\,b\,\text{PolyLog}\left[3,\frac{a\,x}{b+a\,x}\right]}{a}$$

Result (type 8, 17 leaves):

$$\int \text{Log}\left[\frac{c\,x^2}{(b+a\,x)^2}\right]^3 dx$$

Problem 102: Result more than twice size of optimal antiderivative.

$$\int \frac{\text{PolyLog}\left[2,\,1+\frac{b\,c-a\,d}{d\,(a+b\,x)}\right]}{(a+b\,x)\,(c+d\,x)}\,dx$$

Optimal (type 4, 35 leaves, 1 step):

$$-\frac{\text{PolyLog}\left[3,\,1+\frac{b\,c-a\,d}{d\,(a+b\,x)}\right]}{b\,c-a\,d}$$

Result (type 4, 1037 leaves):

$$\frac{\left(\text{Log}[a+b\,x]-\text{Log}[c+d\,x]\right)\text{PolyLog}\left[2,\frac{b\,c}{d\,(a+b\,x)}+\frac{b\,x}{a+b\,x}\right]}{b\,c-a\,d}-$$

$$\frac{1}{6\,b\,c-6\,a\,d}\left(-3\,\text{Log}\left[\frac{a}{b}+x\right]^2\text{Log}\left[\frac{-b\,c+a\,d}{d\,(a+b\,x)}\right]+3\,\text{Log}\left[\frac{c}{d}+x\right]^2\text{Log}\left[\frac{-b\,c+a\,d}{d\,(a+b\,x)}\right]+\right.$$

$$2\,\text{Log}\left[\frac{-b\,c+a\,d}{d\,(a+b\,x)}\right]^3-3\,\text{Log}\left[\frac{a}{b}+x\right]^2\text{Log}[a+b\,x]+6\,\text{Log}\left[\frac{a}{b}+x\right]\text{Log}\left[\frac{c}{d}+x\right]\text{Log}[a+b\,x]+$$

$$6\,\text{Log}\left[\frac{a}{b}+x\right]\text{Log}\left[\frac{-b\,c+a\,d}{d\,(a+b\,x)}\right]\text{Log}[a+b\,x]+6\,\text{Log}\left[\frac{c}{d}+x\right]\text{Log}\left[\frac{-b\,c+a\,d}{d\,(a+b\,x)}\right]\text{Log}[a+b\,x]+$$

$$6\,\text{Log}\left[\frac{-b\,c+a\,d}{d\,(a+b\,x)}\right]^2\text{Log}[a+b\,x]+6\,\text{Log}\left[\frac{a}{b}+x\right]\text{Log}[a+b\,x]^2+6\,\text{Log}\left[\frac{-b\,c+a\,d}{d\,(a+b\,x)}\right]\text{Log}[a+b\,x]^2-$$

$$6\,\text{Log}\left[\frac{a}{b}+x\right]\text{Log}\left[\frac{c}{d}+x\right]\text{Log}\left[\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]+3\,\text{Log}\left[\frac{c}{d}+x\right]^2\text{Log}\left[\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]-$$

$$6\,\text{Log}\left[\frac{c}{d}+x\right]\text{Log}\left[\frac{-b\,c+a\,d}{d\,(a+b\,x)}\right]\text{Log}\left[\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]+9\,\text{Log}\left[\frac{a}{b}+x\right]^2\text{Log}[c+d\,x]-$$

$$6\,\text{Log}\left[\frac{a}{b}+x\right]\text{Log}\left[\frac{c}{d}+x\right]\text{Log}[c+d\,x]+6\,\text{Log}\left[\frac{a}{b}+x\right]\text{Log}\left[\frac{-b\,c+a\,d}{d\,(a+b\,x)}\right]\text{Log}[c+d\,x]-$$

$$6\,\text{Log}\left[\frac{c}{d}+x\right]\text{Log}\left[\frac{-b\,c+a\,d}{d\,(a+b\,x)}\right]\text{Log}[c+d\,x]-12\,\text{Log}\left[\frac{a}{b}+x\right]\text{Log}[a+b\,x]\,\text{Log}[c+d\,x]-$$

$$12\,\text{Log}\left[\frac{-b\,c+a\,d}{d\,(a+b\,x)}\right]\text{Log}[a+b\,x]\,\text{Log}[c+d\,x]+6\,\text{Log}\left[\frac{a}{b}+x\right]\text{Log}[c+d\,x]^2+$$

$$6\,\text{Log}\left[\frac{-b\,c+a\,d}{d\,(a+b\,x)}\right]\text{Log}[c+d\,x]^2-9\,\text{Log}\left[\frac{a}{b}+x\right]^2\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]+$$

$$6\,\text{Log}\left[\frac{a}{b}+x\right]\text{Log}\left[\frac{c}{d}+x\right]\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]-6\,\text{Log}\left[\frac{a}{b}+x\right]\text{Log}\left[\frac{-b\,c+a\,d}{d\,(a+b\,x)}\right]\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]+$$

$$6\,\text{Log}\left[\frac{a}{b}+x\right]\text{Log}[a+b\,x]\,\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]-6\,\text{Log}\left[\frac{a}{b}+x\right]\text{Log}[c+d\,x]\,\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]-$$

$$6\left(\text{Log}\left[\frac{a}{b}+x\right]-\text{Log}\left[\frac{c}{d}+x\right]+\text{Log}\left[\frac{-b\,c+a\,d}{d\,(a+b\,x)}\right]-\text{Log}[a+b\,x]+\text{Log}[c+d\,x]\right)$$

$$\text{PolyLog}\left[2,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]-6\left(\text{Log}\left[\frac{a}{b}+x\right]-\text{Log}\left[\frac{c}{d}+x\right]+\text{Log}\left[\frac{-b\,c+a\,d}{d\,(a+b\,x)}\right]\right)$$

$$\left.\text{PolyLog}\left[2,\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]-6\,\text{PolyLog}\left[3,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]-6\,\text{PolyLog}\left[3,\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]\right)$$

Problem 103: Result more than twice size of optimal antiderivative.

$$\int\frac{\text{Log}\left[\frac{-b\,c+a\,d}{d\,(a+b\,x)}\right]\text{Log}\left[\frac{e\,(c+d\,x)}{a+b\,x}\right]}{(a+b\,x)\,(c+d\,x)}\,dx$$

Optimal (type 4, 85 leaves, 2 steps):

$$\frac{\text{Log}\left[\frac{e\,(c+d\,x)}{a+b\,x}\right]\,\text{PolyLog}\left[2,\,1+\frac{b\,c-a\,d}{d\,(a+b\,x)}\right]}{b\,c-a\,d}-\frac{\text{PolyLog}\left[3,\,1+\frac{b\,c-a\,d}{d\,(a+b\,x)}\right]}{b\,c-a\,d}$$

Result (type 4, 617 leaves):

$$\frac{1}{6\,(b\,c-a\,d)}\left(2\,\text{Log}\left[\frac{a}{b}+x\right]^3+3\,\text{Log}\left[\frac{c}{d}+x\right]^2\left(\text{Log}\left[\frac{a}{b}+x\right]-\text{Log}\left[\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]\right)+\right.$$
$$3\,\text{Log}\left[\frac{a}{b}+x\right]^2\left(-\text{Log}\left[\frac{c}{d}+x\right]+\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]\right)+6\left(\text{Log}\left[\frac{a}{b}+x\right]+\text{Log}\left[\frac{-b\,c+a\,d}{d\,(a+b\,x)}\right]\right)$$
$$\left(\text{Log}\left[a+b\,x\right]-\text{Log}\left[c+d\,x\right]\right)\left(\text{Log}\left[\frac{a}{b}+x\right]-\text{Log}\left[\frac{c}{d}+x\right]+\text{Log}\left[\frac{e\,(c+d\,x)}{a+b\,x}\right]\right)+$$
$$6\,\text{Log}\left[\frac{a}{b}+x\right]\,\text{PolyLog}\left[2,\,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]-3\left(\text{Log}\left[\frac{a}{b}+x\right]-\text{Log}\left[\frac{c}{d}+x\right]+\text{Log}\left[\frac{e\,(c+d\,x)}{a+b\,x}\right]\right)$$
$$\left(\text{Log}\left[\frac{a}{b}+x\right]^2-2\left(\text{Log}\left[\frac{a}{b}+x\right]\,\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]+\text{PolyLog}\left[2,\,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]\right)\right)-$$
$$6\,\text{Log}\left[\frac{c}{d}+x\right]\,\text{PolyLog}\left[2,\,\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]-3\left(\text{Log}\left[\frac{a}{b}+x\right]+\text{Log}\left[\frac{-b\,c+a\,d}{d\,(a+b\,x)}\right]\right)$$
$$\left(\text{Log}\left[\frac{a}{b}+x\right]^2+\text{Log}\left[\frac{c}{d}+x\right]^2-2\left(\text{Log}\left[\frac{a}{b}+x\right]\,\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]+\text{PolyLog}\left[2,\,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]\right)-\right.$$
$$\left.\left.2\left(\text{Log}\left[\frac{c}{d}+x\right]\,\text{Log}\left[\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]+\text{PolyLog}\left[2,\,\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]\right)\right)-\right.$$
$$6\left(\text{Log}\left[\frac{a}{b}+x\right]^2\,\text{Log}\left[\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]+2\,\text{Log}\left[\frac{a}{b}+x\right]\,\text{PolyLog}\left[2,\,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]-\right.$$
$$\left.\left.2\,\text{PolyLog}\left[3,\,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]\right)-6\,\text{PolyLog}\left[3,\,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]+6\,\text{PolyLog}\left[3,\,\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]\right)$$

Problem 104: Result more than twice size of optimal antiderivative.

$$\int\frac{\text{Log}\left[\frac{(b\,e-a\,f)\,(c+d\,x)}{(d\,e-c\,f)\,(a+b\,x)}\right]^2}{a+b\,x}\,\text{d}x$$

Optimal (type 4, 140 leaves, 4 steps):

$$-\frac{\text{Log}\left[\frac{-b\,c+a\,d}{d\,(a+b\,x)}\right]\,\text{Log}\left[\frac{(b\,e-a\,f)\,(c+d\,x)}{(d\,e-c\,f)\,(a+b\,x)}\right]^2}{b}-$$
$$\frac{2\,\text{Log}\left[\frac{(b\,e-a\,f)\,(c+d\,x)}{(d\,e-c\,f)\,(a+b\,x)}\right]\,\text{PolyLog}\left[2,\,\frac{b\,(c+d\,x)}{d\,(a+b\,x)}\right]}{b}+\frac{2\,\text{PolyLog}\left[3,\,\frac{b\,(c+d\,x)}{d\,(a+b\,x)}\right]}{b}$$

Result (type 4, 363 leaves):

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

Problem 105: Result more than twice size of optimal antiderivative.

$$\int\frac{\text{Log}\left[\frac{e\,(c+d\,x)}{a+b\,x}\right]\text{Log}\left[\frac{(-b\,c+a\,d)\,(e+f\,x)}{(d\,e-c\,f)\,(a+b\,x)}\right]}{(a+b\,x)\,(c+d\,x)}\,dx$$

Optimal (type 4, 109 leaves, 2 steps):

$$\frac{\text{Log}\left[\frac{e\,(c+d\,x)}{a+b\,x}\right]\text{PolyLog}\left[2,1+\frac{(b\,c-a\,d)\,(e+f\,x)}{(d\,e-c\,f)\,(a+b\,x)}\right]}{b\,c-a\,d}-\frac{\text{PolyLog}\left[3,1+\frac{(b\,c-a\,d)\,(e+f\,x)}{(d\,e-c\,f)\,(a+b\,x)}\right]}{b\,c-a\,d}$$

Result (type 4, 1681 leaves):

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

$$3\,\text{Log}\left[\frac{a}{b}+x\right]^2\,\text{Log}\left[\frac{b\,(e+f\,x)}{b\,e-a\,f}\right]-6\,\text{Log}\left[\frac{a}{b}+x\right]\,\text{Log}\left[\frac{f\,(c+d\,x)}{-d\,e+c\,f}\right]\,\text{Log}\left[\frac{b\,(e+f\,x)}{b\,e-a\,f}\right]+$$
$$3\,\text{Log}\left[\frac{f\,(c+d\,x)}{-d\,e+c\,f}\right]^2\,\text{Log}\left[\frac{b\,(e+f\,x)}{b\,e-a\,f}\right]+6\,\text{Log}\left[\frac{a}{b}+x\right]\,\text{Log}\left[\frac{e\,(c+d\,x)}{a+b\,x}\right]\,\text{Log}\left[\frac{b\,(e+f\,x)}{b\,e-a\,f}\right]-$$
$$6\,\text{Log}\left[\frac{f\,(c+d\,x)}{-d\,e+c\,f}\right]\,\text{Log}\left[\frac{(b\,e-a\,f)\,(c+d\,x)}{(d\,e-c\,f)\,(a+b\,x)}\right]\,\text{Log}\left[\frac{b\,(e+f\,x)}{b\,e-a\,f}\right]+$$
$$3\,\text{Log}\left[\frac{(b\,e-a\,f)\,(c+d\,x)}{(d\,e-c\,f)\,(a+b\,x)}\right]^2\,\text{Log}\left[\frac{b\,(e+f\,x)}{b\,e-a\,f}\right]-6\,\text{Log}\left[\frac{a}{b}+x\right]\,\text{Log}\left[\frac{c}{d}+x\right]\,\text{Log}\left[\frac{d\,(e+f\,x)}{d\,e-c\,f}\right]+$$
$$3\,\text{Log}\left[\frac{c}{d}+x\right]^2\,\text{Log}\left[\frac{d\,(e+f\,x)}{d\,e-c\,f}\right]+6\,\text{Log}\left[\frac{a}{b}+x\right]\,\text{Log}\left[\frac{f\,(c+d\,x)}{-d\,e+c\,f}\right]\,\text{Log}\left[\frac{d\,(e+f\,x)}{d\,e-c\,f}\right]-$$
$$3\,\text{Log}\left[\frac{f\,(c+d\,x)}{-d\,e+c\,f}\right]^2\,\text{Log}\left[\frac{d\,(e+f\,x)}{d\,e-c\,f}\right]-6\,\text{Log}\left[\frac{c}{d}+x\right]\,\text{Log}\left[\frac{e\,(c+d\,x)}{a+b\,x}\right]\,\text{Log}\left[\frac{d\,(e+f\,x)}{d\,e-c\,f}\right]+$$
$$6\,\text{Log}\left[\frac{f\,(c+d\,x)}{-d\,e+c\,f}\right]\,\text{Log}\left[\frac{(b\,e-a\,f)\,(c+d\,x)}{(d\,e-c\,f)\,(a+b\,x)}\right]\,\text{Log}\left[\frac{d\,(e+f\,x)}{d\,e-c\,f}\right]+$$
$$3\,\text{Log}\left[\frac{e\,(c+d\,x)}{a+b\,x}\right]^2\,\text{Log}\left[\frac{(-b\,c+a\,d)\,(e+f\,x)}{(d\,e-c\,f)\,(a+b\,x)}\right]-$$
$$3\,\text{Log}\left[\frac{(b\,e-a\,f)\,(c+d\,x)}{(d\,e-c\,f)\,(a+b\,x)}\right]^2\,\text{Log}\left[\frac{(-b\,c+a\,d)\,(e+f\,x)}{(d\,e-c\,f)\,(a+b\,x)}\right]+6\,\text{Log}\left[\frac{a}{b}+x\right]\,\text{PolyLog}\left[2,\,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]+$$
$$6\left(\text{Log}\left[\frac{e\,(c+d\,x)}{a+b\,x}\right]-\text{Log}\left[\frac{(b\,e-a\,f)\,(c+d\,x)}{(d\,e-c\,f)\,(a+b\,x)}\right]\right)\text{PolyLog}\left[2,\,\frac{f\,(a+b\,x)}{-b\,e+a\,f}\right]+$$
$$6\,\text{Log}\left[\frac{a}{b}+x\right]\,\text{PolyLog}\left[2,\,\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]+6\,\text{Log}\left[\frac{e\,(c+d\,x)}{a+b\,x}\right]\,\text{PolyLog}\left[2,\,\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]-$$
$$6\,\text{Log}\left[\frac{e\,(c+d\,x)}{a+b\,x}\right]\,\text{PolyLog}\left[2,\,\frac{f\,(c+d\,x)}{-d\,e+c\,f}\right]+6\,\text{Log}\left[\frac{(b\,e-a\,f)\,(c+d\,x)}{(d\,e-c\,f)\,(a+b\,x)}\right]$$
$$\text{PolyLog}\left[2,\,\frac{f\,(c+d\,x)}{-d\,e+c\,f}\right]+6\,\text{Log}\left[\frac{(b\,e-a\,f)\,(c+d\,x)}{(d\,e-c\,f)\,(a+b\,x)}\right]\,\text{PolyLog}\left[2,\,\frac{b\,(c+d\,x)}{d\,(a+b\,x)}\right]-$$
$$6\,\text{Log}\left[\frac{(b\,e-a\,f)\,(c+d\,x)}{(d\,e-c\,f)\,(a+b\,x)}\right]\,\text{PolyLog}\left[2,\,\frac{(b\,e-a\,f)\,(c+d\,x)}{(d\,e-c\,f)\,(a+b\,x)}\right]-6\,\text{PolyLog}\left[3,\,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]-$$
$$6\,\text{PolyLog}\left[3,\,\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]-6\,\text{PolyLog}\left[3,\,\frac{b\,(c+d\,x)}{d\,(a+b\,x)}\right]+6\,\text{PolyLog}\left[3,\,\frac{(b\,e-a\,f)\,(c+d\,x)}{(d\,e-c\,f)\,(a+b\,x)}\right]\Bigg)$$

Problem 106: Result more than twice size of optimal antiderivative.

$$\int\frac{\text{Log}\left[\frac{(b\,e-a\,f)\,(c+d\,x)}{(d\,e-c\,f)\,(a+b\,x)}\right]^2}{(a+b\,x)\,(e+f\,x)}\,\text{d}x$$

Optimal (type 4, 204 leaves, 4 steps):

$$-\frac{\text{Log}\left[\frac{(b e-a f)\ (c+d x)}{(d e-c f)\ (a+b x)}\right]^2 \text{Log}\left[1-\frac{(b e-a f)\ (c+d x)}{(d e-c f)\ (a+b x)}\right]}{b e-a f}-$$

$$\frac{2 \text{Log}\left[\frac{(b e-a f)\ (c+d x)}{(d e-c f)\ (a+b x)}\right] \text{PolyLog}\left[2, \frac{(b e-a f)\ (c+d x)}{(d e-c f)\ (a+b x)}\right]}{b e-a f}+\frac{2 \text{PolyLog}\left[3, \frac{(b e-a f)\ (c+d x)}{(d e-c f)\ (a+b x)}\right]}{b e-a f}$$

Result (type 4, 1636 leaves) :

$$\frac{1}{3 b e-3 a f}\left(-2 \text{Log}\left[\frac{a}{b}+x\right]^3+3 \text{Log}\left[\frac{a}{b}+x\right]^2 \text{Log}[a+b x]-6 \text{Log}\left[\frac{a}{b}+x\right] \text{Log}\left[\frac{c}{d}+x\right] \text{Log}[a+b x]+\right.$$

$$3 \text{Log}\left[\frac{c}{d}+x\right]^2 \text{Log}[a+b x]+6 \text{Log}\left[\frac{a}{b}+x\right] \text{Log}\left[\frac{c}{d}+x\right] \text{Log}\left[\frac{d\ (a+b x)}{-b c+a d}\right]-$$

$$3 \text{Log}\left[\frac{c}{d}+x\right]^2 \text{Log}\left[\frac{d\ (a+b x)}{-b c+a d}\right]+3 \text{Log}\left[\frac{a}{b}+x\right]^2 \text{Log}\left[\frac{b\ (c+d x)}{b c-a d}\right]-$$

$$3 \text{Log}\left[\frac{a}{b}+x\right]^2 \text{Log}\left[\frac{(-b e+a f)\ (c+d x)}{(-d e+c f)\ (a+b x)}\right]+6 \text{Log}\left[\frac{a}{b}+x\right] \text{Log}[a+b x] \text{Log}\left[\frac{(-b e+a f)\ (c+d x)}{(-d e+c f)\ (a+b x)}\right]-$$

$$6 \text{Log}\left[\frac{c}{d}+x\right] \text{Log}[a+b x] \text{Log}\left[\frac{(-b e+a f)\ (c+d x)}{(-d e+c f)\ (a+b x)}\right]+$$

$$6 \text{Log}\left[\frac{c}{d}+x\right] \text{Log}\left[\frac{d\ (a+b x)}{-b c+a d}\right] \text{Log}\left[\frac{(-b e+a f)\ (c+d x)}{(-d e+c f)\ (a+b x)}\right]+$$

$$3 \text{Log}\left[\frac{-b c+a d}{d\ (a+b x)}\right] \text{Log}\left[\frac{(-b e+a f)\ (c+d x)}{(-d e+c f)\ (a+b x)}\right]^2+3 \text{Log}[a+b x] \text{Log}\left[\frac{(-b e+a f)\ (c+d x)}{(-d e+c f)\ (a+b x)}\right]^2-$$

$$3 \text{Log}\left[\frac{a}{b}+x\right]^2 \text{Log}[e+f x]+6 \text{Log}\left[\frac{a}{b}+x\right] \text{Log}\left[\frac{c}{d}+x\right] \text{Log}[e+f x]-$$

$$3 \text{Log}\left[\frac{c}{d}+x\right]^2 \text{Log}[e+f x]-6 \text{Log}\left[\frac{a}{b}+x\right] \text{Log}\left[\frac{(-b e+a f)\ (c+d x)}{(-d e+c f)\ (a+b x)}\right] \text{Log}[e+f x]+$$

$$6 \text{Log}\left[\frac{c}{d}+x\right] \text{Log}\left[\frac{(-b e+a f)\ (c+d x)}{(-d e+c f)\ (a+b x)}\right] \text{Log}[e+f x]-$$

$$3 \text{Log}\left[\frac{(-b e+a f)\ (c+d x)}{(-d e+c f)\ (a+b x)}\right]^2 \text{Log}[e+f x]+3 \text{Log}\left[\frac{a}{b}+x\right]^2 \text{Log}\left[\frac{b\ (e+f x)}{b e-a f}\right]-$$

$$6 \text{Log}\left[\frac{a}{b}+x\right] \text{Log}\left[\frac{f\ (c+d x)}{-d e+c f}\right] \text{Log}\left[\frac{b\ (e+f x)}{b e-a f}\right]+3 \text{Log}\left[\frac{f\ (c+d x)}{-d e+c f}\right]^2 \text{Log}\left[\frac{b\ (e+f x)}{b e-a f}\right]+$$

$$6 \text{Log}\left[\frac{a}{b}+x\right] \text{Log}\left[\frac{(-b e+a f)\ (c+d x)}{(-d e+c f)\ (a+b x)}\right] \text{Log}\left[\frac{b\ (e+f x)}{b e-a f}\right]-$$

$$6 \text{Log}\left[\frac{f\ (c+d x)}{-d e+c f}\right] \text{Log}\left[\frac{(-b e+a f)\ (c+d x)}{(-d e+c f)\ (a+b x)}\right] \text{Log}\left[\frac{b\ (e+f x)}{b e-a f}\right]+$$

$$3 \text{Log}\left[\frac{(-b e+a f)\ (c+d x)}{(-d e+c f)\ (a+b x)}\right]^2 \text{Log}\left[\frac{b\ (e+f x)}{b e-a f}\right]-6 \text{Log}\left[\frac{a}{b}+x\right] \text{Log}\left[\frac{c}{d}+x\right] \text{Log}\left[\frac{d\ (e+f x)}{d e-c f}\right]+$$

$$3 \text{Log}\left[\frac{c}{d}+x\right]^2 \text{Log}\left[\frac{d\ (e+f x)}{d e-c f}\right]+6 \text{Log}\left[\frac{a}{b}+x\right] \text{Log}\left[\frac{f\ (c+d x)}{-d e+c f}\right] \text{Log}\left[\frac{d\ (e+f x)}{d e-c f}\right]-$$

$$3 \text{Log}\left[\frac{f\ (c+d x)}{-d e+c f}\right]^2 \text{Log}\left[\frac{d\ (e+f x)}{d e-c f}\right]-6 \text{Log}\left[\frac{c}{d}+x\right] \text{Log}\left[\frac{(-b e+a f)\ (c+d x)}{(-d e+c f)\ (a+b x)}\right] \text{Log}\left[\frac{d\ (e+f x)}{d e-c f}\right]+$$

$$6\,\text{Log}\left[\frac{f\,(c+d\,x)}{-d\,e+c\,f}\right]\,\text{Log}\left[\frac{(-b\,e+a\,f)\,(c+d\,x)}{(-d\,e+c\,f)\,(a+b\,x)}\right]\,\text{Log}\left[\frac{d\,(e+f\,x)}{d\,e-c\,f}\right]-$$
$$3\,\text{Log}\left[\frac{(-b\,e+a\,f)\,(c+d\,x)}{(-d\,e+c\,f)\,(a+b\,x)}\right]^2\,\text{Log}\left[\frac{(-b\,c+a\,d)\,(e+f\,x)}{(d\,e-c\,f)\,(a+b\,x)}\right]+$$
$$6\,\text{Log}\left[\frac{a}{b}+x\right]\,\text{PolyLog}\left[2,\,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]+6\left(\text{Log}\left[\frac{a}{b}+x\right]+\text{Log}\left[\frac{(-b\,e+a\,f)\,(c+d\,x)}{(-d\,e+c\,f)\,(a+b\,x)}\right]\right)$$
$$\text{PolyLog}\left[2,\,\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]+6\,\text{Log}\left[\frac{(-b\,e+a\,f)\,(c+d\,x)}{(-d\,e+c\,f)\,(a+b\,x)}\right]\,\text{PolyLog}\left[2,\,\frac{b\,(c+d\,x)}{d\,(a+b\,x)}\right]-$$
$$6\,\text{Log}\left[\frac{(-b\,e+a\,f)\,(c+d\,x)}{(-d\,e+c\,f)\,(a+b\,x)}\right]\,\text{PolyLog}\left[2,\,\frac{(b\,e-a\,f)\,(c+d\,x)}{(d\,e-c\,f)\,(a+b\,x)}\right]-6\,\text{PolyLog}\left[3,\,\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]-$$
$$6\,\text{PolyLog}\left[3,\,\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]-6\,\text{PolyLog}\left[3,\,\frac{b\,(c+d\,x)}{d\,(a+b\,x)}\right]+6\,\text{PolyLog}\left[3,\,\frac{(b\,e-a\,f)\,(c+d\,x)}{(d\,e-c\,f)\,(a+b\,x)}\right]\Bigg)$$

Problem 107: Result more than twice size of optimal antiderivative.

$$\int\frac{\text{Log}\left[\frac{(b\,e-a\,f)\,(c+d\,x)}{(d\,e-c\,f)\,(a+b\,x)}\right]^2}{e+f\,x}\,dx$$

Optimal (type 4, 322 leaves, 9 steps):

$$-\frac{\text{Log}\left[-\frac{b\,c-a\,d}{d\,(a+b\,x)}\right]\,\text{Log}\left[\frac{(b\,e-a\,f)\,(c+d\,x)}{(d\,e-c\,f)\,(a+b\,x)}\right]^2}{f}+\frac{\text{Log}\left[\frac{(b\,e-a\,f)\,(c+d\,x)}{(d\,e-c\,f)\,(a+b\,x)}\right]^2\,\text{Log}\left[1-\frac{(b\,e-a\,f)\,(c+d\,x)}{(d\,e-c\,f)\,(a+b\,x)}\right]}{f}-$$
$$\frac{2\,\text{Log}\left[\frac{(b\,e-a\,f)\,(c+d\,x)}{(d\,e-c\,f)\,(a+b\,x)}\right]\,\text{PolyLog}\left[2,\,\frac{b\,(c+d\,x)}{d\,(a+b\,x)}\right]}{f}+\frac{2\,\text{Log}\left[\frac{(b\,e-a\,f)\,(c+d\,x)}{(d\,e-c\,f)\,(a+b\,x)}\right]\,\text{PolyLog}\left[2,\,\frac{(b\,e-a\,f)\,(c+d\,x)}{(d\,e-c\,f)\,(a+b\,x)}\right]}{f}+$$
$$\frac{2\,\text{PolyLog}\left[3,\,\frac{b\,(c+d\,x)}{d\,(a+b\,x)}\right]}{f}-\frac{2\,\text{PolyLog}\left[3,\,\frac{(b\,e-a\,f)\,(c+d\,x)}{(d\,e-c\,f)\,(a+b\,x)}\right]}{f}$$

Result (type 4, 1080 leaves):

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

Problem 108: Result more than twice size of optimal antiderivative.

$$\int \frac{\text{Log}\left[\frac{(b e-a f) (c+d x)}{(d e-c f) (a+b x)}\right] \text{Log}\left[\frac{b (e+f x)}{b e-a f}\right]}{(a+b x) (c+d x)} dx$$

Optimal (type 4, 433 leaves, 10 steps):

$$-\frac{\text{Log}\left[-\frac{b c-a d}{d (a+b x)}\right] \text{Log}\left[\frac{(b e-a f) (c+d x)}{(d e-c f) (a+b x)}\right]^2}{2 (b c-a d)}-\frac{\text{Log}\left[\frac{(b e-a f) (c+d x)}{(d e-c f) (a+b x)}\right]^2 \text{Log}\left[\frac{b (e+f x)}{b e-a f}\right]}{2 (b c-a d)}+$$
$$\frac{\text{Log}\left[\frac{(b e-a f) (c+d x)}{(d e-c f) (a+b x)}\right]^2 \text{Log}\left[1-\frac{(b e-a f) (c+d x)}{(d e-c f) (a+b x)}\right]}{2 (b c-a d)}-\frac{\text{Log}\left[\frac{(b e-a f) (c+d x)}{(d e-c f) (a+b x)}\right] \text{PolyLog}\left[2, \frac{b (c+d x)}{d (a+b x)}\right]}{b c-a d}+$$
$$\frac{\text{Log}\left[\frac{(b e-a f) (c+d x)}{(d e-c f) (a+b x)}\right] \text{PolyLog}\left[2, \frac{(b e-a f) (c+d x)}{(d e-c f) (a+b x)}\right]}{b c-a d}+\frac{\text{PolyLog}\left[3, \frac{b (c+d x)}{d (a+b x)}\right]}{b c-a d}-\frac{\text{PolyLog}\left[3, \frac{(b e-a f) (c+d x)}{(d e-c f) (a+b x)}\right]}{b c-a d}$$

Result (type 4, 1855 leaves) :

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

$$2\left(\text{Log}\left[\frac{c}{d}+x\right]\text{Log}\left[\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]+\text{PolyLog}\left[2,\ \frac{b\,(c+d\,x)}{b\,c-a\,d}\right]\right)+$$

$$2\,\text{Log}\left[\frac{c}{d}+x\right]\text{PolyLog}\left[2,\ \frac{f\,(c+d\,x)}{-d\,e+c\,f}\right]+2\left(\text{Log}\left[\frac{c}{d}+x\right]+\text{Log}\left[\frac{(b\,c-a\,d)\ (e+f\,x)}{(b\,e-a\,f)\ (c+d\,x)}\right]\right)$$

$$\text{PolyLog}\left[2,\ \frac{b\,(e+f\,x)}{b\,e-a\,f}\right]+2\left(\text{Log}\left[\frac{a}{b}+x\right]-\text{Log}\left[\frac{c}{d}+x\right]+\text{Log}\left[\frac{(-b\,e+a\,f)\ (c+d\,x)}{(-d\,e+c\,f)\ (a+b\,x)}\right]\right)$$

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

$$\left.\text{PolyLog}\left[2,\ \frac{b\,(e+f\,x)}{b\,e-a\,f}\right]-\text{PolyLog}\left[2,\ \frac{d\,(e+f\,x)}{d\,e-c\,f}\right]\right)+$$

$$2\left(\text{Log}\left[\frac{a}{b}+x\right]+\text{Log}\left[\frac{(-b\,c+a\,d)\ (e+f\,x)}{(d\,e-c\,f)\ (a+b\,x)}\right]\right)\text{PolyLog}\left[2,\ \frac{d\,(e+f\,x)}{d\,e-c\,f}\right]+$$

$$2\,\text{Log}\left[\frac{(-b\,c+a\,d)\ (e+f\,x)}{(d\,e-c\,f)\ (a+b\,x)}\right]\left(\text{PolyLog}\left[2,\ \frac{b\,(e+f\,x)}{f\,(a+b\,x)}\right]-\text{PolyLog}\left[2,\ -\frac{(b\,c-a\,d)\ (e+f\,x)}{(d\,e-c\,f)\ (a+b\,x)}\right]\right)+$$

$$2\,\text{Log}\left[\frac{(b\,c-a\,d)\ (e+f\,x)}{(b\,e-a\,f)\ (c+d\,x)}\right]\left(\text{PolyLog}\left[2,\ \frac{d\,(e+f\,x)}{f\,(c+d\,x)}\right]-\text{PolyLog}\left[2,\ \frac{(b\,c-a\,d)\ (e+f\,x)}{(b\,e-a\,f)\ (c+d\,x)}\right]\right)-$$

$$2\,\text{PolyLog}\left[3,\ \frac{d\,(a+b\,x)}{-b\,c+a\,d}\right]-2\,\text{PolyLog}\left[3,\ \frac{f\,(a+b\,x)}{-b\,e+a\,f}\right]-2\,\text{PolyLog}\left[3,\ \frac{b\,(c+d\,x)}{b\,c-a\,d}\right]-$$

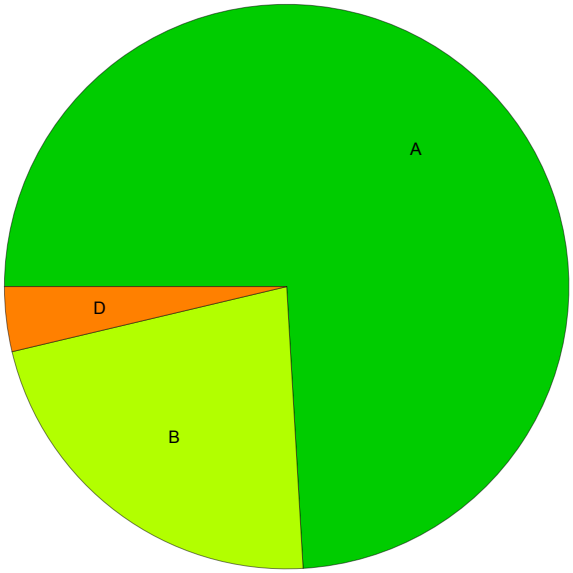
$$2\,\text{PolyLog}\left[3,\ \frac{f\,(c+d\,x)}{-d\,e+c\,f}\right]-2\,\text{PolyLog}\left[3,\ \frac{b\,(e+f\,x)}{b\,e-a\,f}\right]-2\,\text{PolyLog}\left[3,\ \frac{d\,(e+f\,x)}{d\,e-c\,f}\right]-$$

$$2\,\text{PolyLog}\left[3,\ \frac{b\,(e+f\,x)}{f\,(a+b\,x)}\right]+2\,\text{PolyLog}\left[3,\ -\frac{(b\,c-a\,d)\ (e+f\,x)}{(d\,e-c\,f)\ (a+b\,x)}\right]-$$

$$2\,\text{PolyLog}\left[3,\ \frac{d\,(e+f\,x)}{f\,(c+d\,x)}\right]+2\,\text{PolyLog}\left[3,\ \frac{(b\,c-a\,d)\ (e+f\,x)}{(b\,e-a\,f)\ (c+d\,x)}\right]\Bigg)$$

Summary of Integration Test Results

108 integration problems



A - 80 optimal antiderivatives

B - 24 more than twice size of optimal antiderivatives

C - 0 unnecessarily complex antiderivatives

D - 4 unable to integrate problems

E - 0 integration timeouts