Mathematica 11.3 Integration Test Results

Test results for the 35 problems in "1.1.1.7 P(x) $(a+b x)^m (c+d x)^n (e+f x)^p (g+h x)^q.m$ "

Problem 1: Result unnecessarily involves complex numbers and more than twice size of optimal antiderivative.

$$\int \frac{(a+b\,x)^2\;(A+B\,x)}{\sqrt{c+d\,x}\;\sqrt{e+f\,x}\;\sqrt{g+h\,x}}\;dx$$
 Optimal (type 4, 700 leaves, 9 steps):
$$\frac{1}{15\,d^2\,f^2\,h^2} 2\,b\;(7\,a\,B\,d\,f\,h + b\;(5\,A\,d\,f\,h - 4\,B\;(d\,f\,g + d\,e\,h + c\,f\,h)))\;\sqrt{c+d\,x}\;\sqrt{e+f\,x}\;\sqrt{g+h\,x}\;+ \\ \frac{2\,b\,B\;(a+b\,x)\;\sqrt{c+d\,x}\;\sqrt{e+f\,x}\;\sqrt{g+h\,x}}{5\,d\,f\,h}\;+ \\ \left(2\,\sqrt{-d\,e+c\,f}\;\left(15\,a^2\,B\,d^2\,f^2\,h^2 + 10\,a\,b\,d\,f\,h\;\left(3\,A\,d\,f\,h - 2\,B\;\left(d\,f\,g + d\,e\,h + c\,f\,h\right)\right)\;- \\ B\;(8\,c^2\,f^2\,h^2 + 7\,c\,d\,f\,h\;\left(f\,g + e\,h\right)\;+ d^2\left(8\,f^2\,g^2 + 7\,e\,f\,g\,h + 8\,e^2\,h^2\right)))\right) \\ \sqrt{\frac{d\;(e+f\,x)}{d\,e-c\,f}}\;\sqrt{g+h\,x}\;\; EllipticE\left[ArcSin\left[\frac{\sqrt{f}\;\sqrt{c+d\,x}}{\sqrt{-d\,e+c\,f}}\right],\;\frac{(d\,e-c\,f)\;h}{f\left(d\,g-c\,h\right)}\right] \right/} \\ \left(15\,d^3\,f^{5/2}\,h^3\,\sqrt{e+f\,x}\;\sqrt{\frac{d\;(g+h\,x)}{d\,g-c\,h}}\;-\frac{1}{15\,d^3\,f^{5/2}\,h^3\,\sqrt{e+f\,x}\;\sqrt{g+h\,x}} \\ 2\,\sqrt{-d\,e+c\,f} \\ (15\,a^2\,d^2\,f^2\,h^2\,(B\,g-A\,h)\;+ 10\,a\,b\,d\,f\,h\;(3\,A\,d\,f\,g\,h - B\;(c\,h\;(f\,g-e\,h)\;+ d\,g\,(2\,f\,g+e\,h))\;) - \\ b^2\;(5\,A\,d\,f\,h\;(c\,h\;(f\,g-e\,h)\;+ d\,g\,(2\,f\,g+e\,h)\;) - \\ B\;(4\,c^2\,f\,h^2\,(f\,g-e\,h)\;+ c\,d\,h\;(3\,f^2\,g^2\,+ e\,f\,g\,h - 4\,e^2\,h^2)\;+ d^2\,g\,(8\,f^2\,g^2\,+ 3\,e\,f\,g\,h + 4\,e^2\,h^2)))) \\ \sqrt{\frac{d\;(e+f\,x)}{d\,e-c\,f}}\;\sqrt{\frac{d\;(g+h\,x)}{d\,g-c\,h}}\;EllipticF[ArcSin[\,\frac{\sqrt{f}\;\sqrt{c+d\,x}}{\sqrt{-d\,e+c\,f}}\,],\;\frac{(d\,e-c\,f)\;h}{f\;(d\,g-c\,h)}]$$

Result (type 4, 12443 leaves):

$$\sqrt{c + d\,x} \,\, \sqrt{e + f\,x} \,\, \left(\frac{2\,b\, \left(-4\,b\,B\,d\,f\,g - 4\,b\,B\,d\,e\,h - 4\,b\,B\,c\,f\,h + 5\,A\,b\,d\,f\,h + 10\,a\,B\,d\,f\,h \right)}{15\,d^2\,f^2\,h^2} + \frac{2\,b^2\,B\,x}{5\,d\,f\,h} \right)$$

$$\sqrt{g + h \; x} \; + \; \frac{1}{15 \; d^4 \; f^2 \; h^2} \; \left(\frac{1}{f \; h \; \sqrt{e + \frac{(c + d \; x) \; \left(f - \frac{c \; f}{c + d \; x}\right)}{d}}} \; \sqrt{g + \frac{(c + d \; x) \; \left(h - \frac{c \; h}{c + d \; x}\right)}{d}} \right) \; d^{-\frac{c \; h}{c + d \; x}} \; d^{-\frac{c \; h}{c + d \; x}}}$$

 $2 \left(8 \ b^2 \ B \ d^2 \ f^2 \ g^2 + 7 \ b^2 \ B \ d^2 \ e \ f \ g \ h + 7 \ b^2 \ B \ c \ d \ f^2 \ g \ h - 10 \ A \ b^2 \ d^2 \ f^2 \ g \ h - 20 \ a \ b \ B \ d^2 \ f^2 \ g \ h + 8 \ b^2 \ B \ c^2 \ f^2 \ g \ h + 8 \ b^2 \ B \ c^2 \ f^2 \ h^2 - 10 \ A \ b^2 \ d^2 \ e \ f \ h^2 - 20 \ a \ b \ B \ d^2 \ e^2 \ h^2 + 8 \ b^2 \ B \ c^2 \ f^2 \ h^2 - 10 \ A \ b^2 \ c \ d \ f^2 \ h^2 + 15 \ a^2 \ B \ d^2 \ f^2 \ h^2 \right) \ \left(c + d \ x\right)^{3/2}$

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

$$2 \, \left(c + d \, x\right) \, \sqrt{ \left(f + \frac{d \, e}{c + d \, x} - \frac{c \, f}{c + d \, x}\right) \, \left(h + \frac{d \, g}{c + d \, x} - \frac{c \, h}{c + d \, x}\right) }$$

$$\left[\left(8 \pm b^2 B d^4 e f^2 g^3 h \sqrt{1 - \frac{-d e + c f}{f (c + d x)}} \right. \sqrt{1 - \frac{-d g + c h}{h (c + d x)}} \right. \left. \left(EllipticE \left[\pm ArcSinh \left[\frac{\sqrt{-\frac{-d e + c f}{f}}}{\sqrt{c + d x}} \right] \right) \right) \right] \right] \right] = \left[\left(\frac{1}{2} + \frac{1}$$

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

$$\left(\sqrt{-\frac{-d \, e + c \, f}{f}} \, \left(-d \, g + c \, h \right) \, \sqrt{\left(f + \frac{d \, e - c \, f}{c + d \, x} \right) \, \left(h + \frac{d \, g - c \, h}{c + d \, x} \right)} \, \right) - \left(8 \, \dot{\mathbb{1}} \, b^2 \, B \, c \, d^3 \right) \, d^3 + c \, d^3$$

$$f^3\,g^3\,h\,\sqrt{1-\frac{-\,d\,e+c\,f}{f\,\left(c+d\,x\right)}}\,\,\sqrt{1-\frac{-\,d\,g+c\,h}{h\,\left(c+d\,x\right)}}\,\,\left[\text{EllipticE}\left[\,\dot{\mathbb{1}}\,\,\text{ArcSinh}\left[\,\frac{\sqrt{-\,\frac{-d\,e+c\,f}{f}}}{\sqrt{c+d\,x}}\right]\,,\right.$$

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

$$\left[\sqrt{-\frac{-d\,e\,+\,c\,f}{f}} \; \left(-d\,g\,+\,c\,h \right) \; \sqrt{\left(f\,+\,\frac{d\,e\,-\,c\,f}{c\,+\,d\,x} \right) \left(h\,+\,\frac{d\,g\,-\,c\,h}{c\,+\,d\,x} \right)} \; \right] \,+\, \left[7\,i\,b^2\,B\,d^4\,e^2 \right]$$

$$f\,g^2\,h^2\,\sqrt{1-\frac{-d\,e\,+\,c\,f}{f} \left(c\,+\,d\,x \right)} \; \sqrt{1-\frac{-d\,g\,+\,c\,h}{h} \left(c\,+\,d\,x \right)} \; \left[EllipticE\left[i\,ArcSinh\left[\frac{\sqrt{-\frac{-d\,e\,+\,c\,f}{f}}}{\sqrt{c\,+\,d\,x}} \right] , \\ \frac{f\left(-d\,g\,+\,c\,h \right)}{\left(-d\,e\,+\,c\,f \right) \; h} \right] - EllipticF\left[i\,ArcSinh\left[\frac{\sqrt{-\frac{-d\,e\,+\,c\,f}{f}}}{\sqrt{c\,+\,d\,x}} \right] , \frac{f\left(-d\,g\,+\,c\,h \right)}{\left(-d\,e\,+\,c\,f \right) \; h} \right] \right] \right]$$

$$\left[\sqrt{-\frac{-d\,e\,+\,c\,f}{f}} \; \left(-d\,g\,+\,c\,h \right) \; \sqrt{\left(f\,+\,\frac{d\,e\,-\,c\,f}{c\,+\,d\,x} \right) \left(h\,+\,\frac{d\,g\,-\,c\,h}{c\,+\,d\,x} \right)} \; - \left[8\,i\,b^2\,B\,c\,d^3 \right]$$

$$e\,f^2\,g^2\,h^2\,\sqrt{1-\frac{-d\,e\,+\,c\,f}{f} \left(c\,+\,d\,x \right)} \; \sqrt{1-\frac{-d\,g\,+\,c\,h}{h} \left(c\,+\,d\,x \right)} \; \left[EllipticE\left[i\,ArcSinh\left[\frac{\sqrt{-\frac{-d\,e\,+\,c\,f}{f}}}{\sqrt{c\,+\,d\,x}} \right] , \frac{f\left(-d\,g\,+\,c\,h \right)}{\left(-d\,e\,+\,c\,f \right) \; h} \right] \right] \right]$$

$$\left[\sqrt{-\frac{-d\,e\,+\,c\,f}{f}} \; \left(-d\,g\,+\,c\,h \right) \; \sqrt{\left(f\,+\,\frac{d\,e\,-\,c\,f}{c\,+\,d\,x} \right) \left(h\,+\,\frac{d\,g\,-\,c\,h}{c\,+\,d\,x} \right)} \; - \left[10\,i\,A\,b^2\,d^4\,e\,f^2\,g^2\,h^2\,\sqrt{1-\frac{-d\,e\,+\,c\,f}{f} \left(c\,+\,d\,x \right)} \; \sqrt{1-\frac{-d\,g\,+\,c\,h}{h} \left(c\,+\,d\,x \right)} \; \sqrt{1-\frac{-d\,g\,+\,c\,h}{h} \left(c\,+\,d\,x \right)} \right]$$

$$EllipticE\left[i\,ArcSinh\left[\frac{\sqrt{-\frac{-d\,e\,+\,c\,f}{f}}}{f\left(c\,+\,d\,x \right)} \; \sqrt{1-\frac{-d\,g\,+\,c\,h}{h} \left(c\,+\,d\,x \right)} \; - \left(-\frac{d\,g\,+\,c\,h}{h} \left(-d\,g\,+\,c\,h \right) \right] - \left(-\frac{d\,g\,+\,c\,h}{h} \left(-\frac{d\,g\,+\,c\,h}{h} \left(-d\,g\,+\,c\,h \right) \right) \right]$$

$$\begin{split} & \text{EllipticF} \big[\text{i} \, \text{ArcSinh} \big[\frac{\sqrt{-\frac{-de+cf}{f}}}{\sqrt{c+d\,x}} \big], \, \frac{f \left(-d\,g+c\,h \right)}{\left(-d\,e+c\,f \right)\,h} \big] \bigg] \bigg\rangle \\ & \left(\sqrt{-\frac{-d\,e+c\,f}{f}} \, \left(-d\,g+c\,h \right) \, \sqrt{\left(f+\frac{d\,e-c\,f}{c+d\,x} \right) \, \left(h+\frac{d\,g-c\,h}{c+d\,x} \right)} \, \right) - \\ & 2\theta \, \text{i} \, a\, b\, B\, d^4\, e\, f^2\, g^2\, h^2 \, \sqrt{1-\frac{-d\,e+c\,f}{f \, \left(c+d\,x \right)}} \, \sqrt{1-\frac{-d\,g+c\,h}{h \, \left(c+d\,x \right)}} \\ & \left[\text{EllipticE} \big[\, \text{i} \, \text{ArcSinh} \big[\frac{\sqrt{-\frac{-d\,e+c\,f}{f}}}{\sqrt{c+d\,x}} \big], \, \frac{f \left(-d\,g+c\,h \right)}{\left(-d\,e+c\,f \right)\,h} \big] - \\ & \left(\sqrt{-\frac{-d\,e+c\,f}{f}} \, \left(-d\,g+c\,h \right) \, \sqrt{\left(f+\frac{d\,e-c\,f}{c+d\,x} \right) \, \left(h+\frac{d\,g-c\,h}{c+d\,x} \right)} \right) \bigg\} \\ & \left(i\, b^2\, B\, c^2\, d^2\, f^3\, g^2\, h^2 \, \sqrt{1-\frac{-d\,e+c\,f}{f \, \left(c+d\,x \right)}} \, \sqrt{1-\frac{-d\,g+c\,h}{h \, \left(c+d\,x \right)}} \right) \\ & \left(EllipticE \big[\, i\, ArcSinh \big[\, \frac{\sqrt{-\frac{-d\,e+c\,f}{f}}}{f \, \left(c+d\,x \right)} \, \sqrt{1-\frac{-d\,g+c\,h}{h \, \left(c+d\,x \right)}} \right] - \\ & \left(EllipticE \big[\, i\, ArcSinh \big[\, \frac{\sqrt{-\frac{-d\,e+c\,f}{f}}}{f \, \left(c+d\,x \right)} \, \sqrt{1-\frac{-d\,g+c\,h}{h \, \left(c+d\,x \right)}} \right] - \\ & \left(-d\,e+c\,f \right)\,h \, \left(-d\,e+c\,f \right)\,h \, \right] - \\ & \left(-d\,e+c\,f \right)\,h \, \left(-d\,e+c\,f \right)\,h \, \right] - \\ & \left(-d\,e+c\,f \right)\,h \, \left(-d\,e+c\,f \right)\,h \, \right] - \\ & \left(-d\,e+c\,f \right)\,h \, \left(-d\,e+c\,f \right)\,h \, \left(-d\,e+c\,f \right)\,h \, \right) - \\ & \left(-d\,e+c\,f \right)\,h \, \left(-d\,e+c\,f \right)\,h \, \left(-d\,e+c\,f \right)\,h \, \right) - \\ & \left(-d\,e+c\,f \right)\,h \, \left(-d\,e+c\,f \right)\,h \, \left(-d\,e+c\,f \right) \, \right) - \\ & \left(-d\,e+c\,f \right)\,h \, \left(-d\,e+c\,f \right) \, \left(-d\,e+c\,f \right) \, \left(-d\,e+c\,f \right) \, \left(-d\,e+c\,f \right) \, \right) + \\ & \left(-d\,e+c\,f \right)\,h \, \left(-d\,e+c\,f \right) \, \right) \, \left(-d\,e+c\,f \right) \, \left($$

$$\label{eq:energy_energy} \text{EllipticF}\left[\, \dot{\mathbb{1}} \, \operatorname{ArcSinh}\left[\, \frac{\sqrt{-\, \frac{-d\, e + c\, f}{f}}}{\sqrt{c + d\, x}}\, \right] \, , \, \, \frac{f\, \left(-\, d\, g + c\, h\right)}{\left(-\, d\, e + c\, f\right)\, h}\, \right] \, \right]$$

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

$$\left[\text{EllipticE} \left[\, \dot{\mathbb{1}} \, \, \text{ArcSinh} \left[\, \frac{\sqrt{-\, \frac{-d\, e + c\, f}{f}}}{\sqrt{c + d\, x}} \, \right] \, , \, \, \frac{f\, \left(-d\, g + c\, h \right)}{\left(-d\, e + c\, f \right)\, h} \, \right] \, - \right. \right]$$

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

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

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

$$\left[8 \, \dot{\mathbb{1}} \, b^2 \, B \, d^4 \, e^3 \, g \, h^3 \, \sqrt{1 - \frac{-\, d \, e + c \, f}{f \, \left(\, c \, + \, d \, \, x \, \right)}} \, \, \sqrt{1 - \frac{-\, d \, g \, + \, c \, \, h}{h \, \left(\, c \, + \, d \, \, x \, \right)}} \, \left[\text{EllipticE} \left[\, \dot{\mathbb{1}} \, \, \text{ArcSinh} \left[\, \frac{\sqrt{-\, \frac{-\, d \, e + c \, f}{f}}}{\sqrt{c \, + \, d \, x}} \right] \, , \right] \right] \, ,$$

$$\frac{f\left(-\text{d}\,g+c\,h\right)}{\left(-\text{d}\,e+c\,f\right)\,h}\big]\,-\,\text{EllipticF}\big[\,\dot{\mathbb{1}}\,\text{ArcSinh}\big[\,\frac{\sqrt{-\frac{-\text{d}\,e+c\,f}{f}}}{\sqrt{c+d\,x}}\big]\,\text{, }\,\frac{f\left(-\text{d}\,g+c\,h\right)}{\left(-\text{d}\,e+c\,f\right)\,h}\big]\,\Bigg]\bigg/$$

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

$$\left[\text{EllipticE} \left[\text{ i ArcSinh} \left[\frac{\sqrt{-\frac{-d\,e_{+}c\,f}{f}}}{\sqrt{c_{\,+}d\,x_{\,-}}} \right] \text{, } \frac{f\left(-d\,g_{\,+}\,c\,h\right)}{\left(-d\,e_{\,+}\,c\,f\right)\,h} \right] - \right] \right]$$

$$\label{eq:final_continuous_con$$

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

$$\left[\text{EllipticE} \Big[\text{ i ArcSinh} \Big[\frac{\sqrt{-\frac{-d\,e_{+}c\,f}{f}}}{\sqrt{c_{+}d\,x_{-}}} \Big] \text{, } \frac{f\left(-d\,g_{+}c\,h\right)}{\left(-d\,e_{+}c\,f\right)\,h} \Big] - \right]$$

$$\begin{split} & \text{EllipticF} \big[\text{i} \, \text{ArcSinh} \big[\frac{\sqrt{-\frac{-d + c \, f}{f}}}{\sqrt{c + d \, x}} \big], \, \frac{f \, \left(-d \, g + c \, h \right)}{\left(-d \, e + c \, f \right) \, h} \big] \bigg] \bigg/ \\ & \left(\sqrt{-\frac{-d \, e + c \, f}{f}} \, \left(-d \, g + c \, h \right) \, \sqrt{\left(f + \frac{d \, e - c \, f}{c + d \, x} \right) \left(h + \frac{d \, g - c \, h}{c + d \, x} \right)} \, \right) - \\ & \left[20 \, i \, a \, b \, B \, d^4 \, e^2 \, f \, g \, h^3 \, \sqrt{1 - \frac{-d \, e + c \, f}{f} \, \left(c + d \, x \right)}} \, \sqrt{1 - \frac{-d \, g + c \, h}{h \, \left(c + d \, x \right)}} \, \right] - \\ & \left[\text{EllipticE} \big[i \, \text{ArcSinh} \big[\frac{\sqrt{-\frac{-d \, e + c \, f}{f}}}}{\sqrt{c + d \, x}} \big], \, \frac{f \, \left(-d \, g + c \, h \right)}{\left(-d \, e + c \, f \right) \, h} \big] - \right] \right. \\ & \left[\text{EllipticF} \big[i \, \text{ArcSinh} \big[\frac{\sqrt{-\frac{-d \, e + c \, f}{f}}}}{\sqrt{c + d \, x}} \, \right], \, \frac{f \, \left(-d \, g + c \, h \right)}{\left(-d \, e + c \, f \right) \, h} \right] \right. \\ & \left[\text{i} \, b^2 \, B \, c^2 \, d^2 \, e \, f^2 \, g \, h^3 \, \sqrt{1 - \frac{-d \, e + c \, f}{f \, \left(c + d \, x \right)}} \, \sqrt{1 - \frac{-d \, g + c \, h}{h \, \left(c + d \, x \right)}} \right. \right] \\ & \left. \text{EllipticE} \big[i \, \text{ArcSinh} \big[\frac{\sqrt{-\frac{-d \, e + c \, f}{f}}}}{\sqrt{c + d \, x}} \, \big], \, \frac{f \, \left(-d \, g + c \, h \right)}{\left(-d \, e + c \, f \right) \, h} \right] - \right. \\ & \text{EllipticF} \big[i \, \text{ArcSinh} \big[\frac{\sqrt{-\frac{-d \, e + c \, f}{f}}}}{\sqrt{c + d \, x}} \, \big], \, \frac{f \, \left(-d \, g + c \, h \right)}{\left(-d \, e + c \, f \right) \, h} \big] \right. \right) \right. \\ & \left. \text{EllipticF} \big[i \, \text{ArcSinh} \big[\frac{\sqrt{-\frac{-d \, e + c \, f}{f}}}}{\sqrt{c + d \, x}} \, \big], \, \frac{f \, \left(-d \, g + c \, h \right)}{\left(-d \, e + c \, f \right) \, h} \big] \right. \right] \right. \right. \right.$$

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

$$\left[\text{EllipticE} \left[\text{i ArcSinh} \left[\frac{\sqrt{-\frac{-d\,e_{+}c\,f}{f}}}{\sqrt{c_{\,+}\,d\,x}} \right] \text{, } \frac{f\,\left(-\,d\,g_{\,+}\,c\,h\right)}{\left(-\,d\,e_{\,+}\,c\,f\right)\,h} \right] - \right] \right]$$

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

$$\left[\text{EllipticE} \left[\text{i} \; \text{ArcSinh} \left[\; \frac{\sqrt{-\frac{-\text{d}\, \text{e+c}\, \text{f}}{\text{f}}}}{\sqrt{\text{c}+\text{d}\, \text{x}}} \right] \text{, } \frac{\text{f} \left(-\text{d}\, \text{g}+\text{c}\, \text{h} \right)}{\left(-\text{d}\, \text{e}+\text{c}\, \text{f} \right) \; \text{h}} \right] \; - \right] = \left[-\frac{\text{d}\, \text{e+c}\, \text{f}}{\text{f}} \right]$$

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

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

$$\label{eq:final_continuous_con$$

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

$$\left[\text{EllipticE} \left[\, \dot{\mathbb{1}} \, \, \text{ArcSinh} \left[\, \frac{\sqrt{-\, \frac{-\, d\, e + c\, f}{f}}}{\sqrt{\, c \, + \, d\, x}} \, \right] \, , \, \, \frac{f\, \left(-\, d\, g \, + \, c\, \, h \right)}{\left(-\, d\, e \, + \, c\, \, f \right) \, \, h} \, \right] \, - \right.$$

$$\label{eq:final_continuity} \text{EllipticF} \left[\text{i} \, \operatorname{ArcSinh} \left[\, \frac{\sqrt{-\frac{-d\, e + c\, f}{f}}}{\sqrt{c + d\, x}} \, \right], \, \frac{f \, \left(-d\, g + c\, h \right)}{\left(-d\, e + c\, f \right) \, h} \, \right] \right]$$

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

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

$$\frac{f\left(-d\,g+c\,h\right)}{\left(-d\,e+c\,f\right)\,h} \right] - \text{EllipticF} \left[i\,\text{ArcSinh} \left[\frac{\sqrt{\frac{-de+c\,f}{f}}}{\sqrt{c+d\,x}}\right],\, \frac{f\left(-d\,g+c\,h\right)}{\left(-d\,e+c\,f\right)\,h}\right] \right] \right) / \\ \left[\sqrt{-\frac{-d\,e+c\,f}{f}}\, \left(-d\,g+c\,h\right)\,\sqrt{\left(f+\frac{d\,e-c\,f}{c+d\,x}\right) \left(h+\frac{d\,g-c\,h}{c+d\,x}\right)} \right] - \\ \\ \left[30\,i\,a\,A\,b\,c\,d^3\,f^3\,g\,h^3\,\sqrt{1-\frac{-d\,e+c\,f}{f\left(c+d\,x\right)}}\,\sqrt{1-\frac{-d\,g+c\,h}{h\left(c+d\,x\right)}}\right] - \\ \\ \left[\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{\frac{-d\,e+c\,f}{f}}}{\sqrt{c+d\,x}}\right],\, \frac{f\left(-d\,g+c\,h\right)}{\left(-d\,e+c\,f\right)\,h}\right] - \\ \\ \left[\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{\frac{-d\,e+c\,f}{f}}}{\sqrt{c+d\,x}}\right],\, \frac{f\left(-d\,g+c\,h\right)}{\left(-d\,e+c\,f\right)\,h}\right] - \\ \\ \left[\sqrt{-\frac{-d\,e+c\,f}{f}}\, \left(-d\,g+c\,h\right)\,\sqrt{\left(f+\frac{d\,e-c\,f}{c+d\,x}\right) \left(h+\frac{d\,g-c\,h}{c+d\,x}\right)} \right] - \\ \\ \left[\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{\frac{-d\,e+c\,f}{f}}}{\sqrt{c+d\,x}}\right],\, \frac{f\left(-d\,g+c\,h\right)}{\left(-d\,e+c\,f\right)\,h}\right] - \\ \\ \\ \text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{\frac{-d\,e+c\,f}{f}}}{\sqrt{c+d\,x}}\right],\, \frac{f\left(-d\,g+c\,h\right)}{\left(-d\,e+c\,f\right)\,h}\right] - \\ \\ \\ \text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{\frac{-d\,e+c\,f}{f}}}{\sqrt{c+d\,x}}\right],\, \frac{f\left(-d\,g+c\,h\right)}{\left(-d\,e+c\,f\right)\,h}\right] - \\ \\ \\ \text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{\frac{-d\,e+c\,f}{f}}}{\sqrt{c+d\,x}}\right],\, \frac{f\left(-d\,g+c\,h\right)}{\left(-d\,e+c\,f\right)\,h}\right] - \\ \\ \end{array}$$

$$\left[\sqrt{-\frac{-d\,e\,+\,c\,f}{f}} \, \left(-d\,g\,+\,c\,h \right) \, \sqrt{\left(f\,+\,\frac{d\,e\,-\,c\,f}{c\,+\,d\,x} \right) \, \left(h\,+\,\frac{d\,g\,-\,c\,h}{c\,+\,d\,x} \right)} \, \right] - \\ \left[8\,i\,b^2\,B\,c\,d^3\,e^3\,h^4 \, \sqrt{1\,-\,\frac{-d\,e\,+\,c\,f}{f} \, \left(c\,+\,d\,x \right)} \, \sqrt{1\,-\,\frac{-d\,g\,+\,c\,h}{h} \, \left(c\,+\,d\,x \right)} \, \left[EllipticE \left[i\,ArcSinh \left(\frac{\sqrt{-\frac{-d\,e\,+\,c\,f}{f}}}{\sqrt{c\,+\,d\,x}} \right) , \frac{f \, \left(-d\,g\,+\,c\,h \right)}{\left(-d\,e\,+\,c\,f \right) \, h} \right] - \\ \left[\sqrt{-\,\frac{-d\,e\,+\,c\,f}{f}} \, \left(-d\,g\,+\,c\,h \right) \, \sqrt{\left(f\,+\,\frac{d\,e\,-\,c\,f}{c\,+\,d\,x} \right) \, \left(h\,+\,\frac{d\,g\,-\,c\,h}{c\,+\,d\,x} \right)} \, \right] + \\ \left[i\,b^2\,B\,c^2\,d^2\,e^2\,f\,h^4 \, \sqrt{1\,-\,\frac{-d\,e\,+\,c\,f}{f} \, \left(c\,+\,d\,x \right)} \, \sqrt{1\,-\,\frac{-d\,g\,+\,c\,h}{h} \, \left(c\,+\,d\,x \right)} \, \left[EllipticE \left[i\,ArcSinh \left[\frac{\sqrt{-\,\frac{-d\,e\,+\,c\,f}{f}}}{\sqrt{c\,+\,d\,x}} \right] , \frac{f \, \left(-d\,g\,+\,c\,h \right)}{\left(-d\,e\,+\,c\,f \right) \, h} \right] \right] \right] \right] \\ \left[\sqrt{-\,\frac{-d\,e\,+\,c\,f}{f}} \, \left(-d\,g\,+\,c\,h \right) \, \sqrt{\left(f\,+\,\frac{d\,e\,-\,c\,f}{c\,+\,d\,x} \right) \, \left(h\,+\,\frac{d\,g\,-\,c\,h}{c\,+\,d\,x} \right)} \, \right] + \\ \left[10\,i\,A\,b^2\,c\,d^3\,e^2\,f\,h^4 \, \sqrt{1\,-\,\frac{-d\,e\,+\,c\,f}{f} \, \left(c\,+\,d\,x \right)} \, \sqrt{1\,-\,\frac{-d\,g\,+\,c\,h}{h} \, \left(c\,+\,d\,x \right)} \, \right] + \\ \left[EllipticE \left[i\,ArcSinh \left[\frac{\sqrt{-\,\frac{-d\,e\,+\,c\,f}{c\,+\,d\,x}} \, \right] \, \sqrt{1\,-\,\frac{-d\,g\,+\,c\,h}{h} \, \left(c\,+\,d\,x \right)} \, \right] - \\ \left[EllipticE \left[i\,ArcSinh \left[\frac{\sqrt{-\,\frac{-d\,e\,+\,c\,f}{f}} \, \left(-d\,g\,+\,c\,h \right)}{\sqrt{c\,+\,d\,x}} \, \right] \, , \frac{f \, \left(-d\,g\,+\,c\,h \right)}{\left(-d\,e\,+\,c\,f \right) \, h} \, \right] - \\ \left[EllipticE \left[i\,ArcSinh \left[\frac{\sqrt{-\,\frac{-d\,e\,+\,c\,f}{c\,+\,d\,x}} \, \right] \, , \frac{f \, \left(-d\,g\,+\,c\,h \right)}{h \, \left(-d\,e\,+\,c\,f \right) \, h} \, \right] - \\ \left[EllipticE \left[i\,ArcSinh \left[\frac{\sqrt{-\,\frac{-d\,e\,+\,c\,f}{c\,+\,d\,x}} \, \right] \, , \frac{f \, \left(-d\,g\,+\,c\,h \right)}{h \, \left(-d\,e\,+\,c\,f \right) \, h} \, \right] - \\ \left[-d\,e\,+\,c\,f \, \right] \, , \frac{f \, \left(-d\,g\,+\,c\,h \right)}{h \, \left(-d\,e\,+\,c\,f \right) \, h} \, \right] - \\ \left[-d\,e\,+\,c\,f \, \right] \, , \frac{f \, \left(-d\,g\,+\,c\,h \right)}{h \, \left(-d\,e\,+\,c\,f \right) \, h} \, \right] \, , \frac{f \, \left(-d\,g\,+\,c\,h \right)}{h \, \left(-d\,e\,+\,c\,f \right) \, h} \, \right] - \\ \left[-d\,e\,+\,c\,f \, \right] \, , \frac{f \, \left(-d\,g\,+\,c\,h \right)}{h \, \left(-d\,e\,+\,c\,f \right) \, h} \, \right] \, , \frac{f \, \left(-d\,g\,+\,c\,h \right)}{h \, \left(-d\,e\,+\,c\,f \right) \, h} \, \right] \, , \frac{f \, \left(-d\,g\,+\,c\,h \right)}{h \, \left(-d\,e\,+\,c\,f \right) \, h} \, \right] \, , \frac{f \, \left(-d\,g\,+\,c\,h \right)}{h \, \left(-d\,e\,+\,c\,f \right) \, h} \, \right] \, , \frac{f \, \left(-d\,g\,+\,c\,h \right)}{h \, \left(-d\,e\,+\,c\,f \right) \, h} \, \right] \, , \frac{f \, \left($$

$$\begin{split} & \text{EllipticF} \big[\text{i} \, \text{ArcSinh} \big[\frac{\sqrt{-\frac{-\text{de:cf}}{f}}}{\sqrt{c + \text{d} x}} \big], \frac{f \left(-\text{dg+ch} \right)}{\left(-\text{de+cf} \right) h} \bigg] \bigg] \\ & \left[\sqrt{-\frac{-\text{de+cf}}{f}} \, \left(-\text{dg+ch} \right) \sqrt{\left(f + \frac{\text{de-cf}}{c + \text{d} x} \right) \left(h + \frac{\text{dg-ch}}{c + \text{d} x} \right)} \right] + \\ & 20 \, \text{i} \, \text{ab} \, \text{Bc} \, \text{d}^3 \, \text{e}^2 \, \text{fh}^4 \sqrt{1 - \frac{-\text{de+cf}}{f \left(c + \text{d} x \right)}} \sqrt{1 - \frac{-\text{dg+ch}}{h \left(c + \text{d} x \right)}} \right] \\ & \left[\text{EllipticE} \big[\text{i} \, \text{ArcSinh} \big[\frac{\sqrt{-\frac{-\text{de+cf}}{f}}}{\sqrt{c + \text{d} x}} \big], \frac{f \left(-\text{dg+ch} \right)}{\left(-\text{de+cf} \right) h} \big] - \right] \\ & \left[\text{EllipticF} \big[\text{i} \, \text{ArcSinh} \big[\frac{\sqrt{-\frac{-\text{de+cf}}{f}}}}{\sqrt{c + \text{d} x}} \big], \frac{f \left(-\text{dg+ch} \right)}{\left(-\text{de+cf} \right) h} \big] \right] \\ & \left[\sqrt{-\frac{-\text{de+cf}}{f}} \, \left(-\text{dg+ch} \right) \sqrt{\left(f + \frac{\text{de-cf}}{c + \text{dx}} \right) \left(h + \frac{\text{dg-ch}}{c + \text{dx}} \right)} \right] - \\ & \left[\text{i} \, \text{b}^2 \, \text{Bc}^3 \, \text{de} \, \text{f}^2 \, \text{h}^4 \sqrt{1 - \frac{-\text{de+cf}}{f \left(c + \text{dx} \right)}}} \sqrt{1 - \frac{-\text{dg+ch}}{h \left(c + \text{dx} \right)}} \right] \right] \\ & \left[\sqrt{-\frac{\text{de+cf}}{f}} \, \left(-\text{dg+ch} \right) \right] - \text{EllipticF} \big[\text{i} \, \text{ArcSinh} \big[\frac{\sqrt{-\frac{-\text{de+cf}}{f}}}}{\sqrt{c + \text{dx}}} \big], \frac{f \left(-\text{dg+ch} \right)}{\left(-\text{de+cf} \right) h} \right] \right] \\ & \left[\sqrt{-\frac{-\text{de+cf}}{f}}} \, \left(-\text{dg+ch} \right) \sqrt{\left(f + \frac{\text{de-cf}}{c + \text{dx}} \right)} \left[h + \frac{\text{dg-ch}}{c + \text{dx}} \right] - \\ & \left[\sqrt{-\frac{-\text{de+cf}}{f}}} \, \left(-\text{dg+ch} \right) \sqrt{\left(f + \frac{\text{de-cf}}{c + \text{dx}} \right)} \left[h + \frac{\text{dg-ch}}{c + \text{dx}} \right] - \\ & \left[\sqrt{-\frac{-\text{de+cf}}{f}}} \, \left(-\text{dg+ch} \right) \sqrt{\left(f + \frac{\text{de-cf}}{c + \text{dx}} \right)} \left[h + \frac{\text{dg-ch}}{c + \text{dx}} \right] - \\ & \left[\sqrt{-\frac{\text{de+cf}}{f}} \, \left(-\text{dg+cf} \right) \right] \right] \right] \right] \\ \\ & \left[\sqrt{-\frac{\text{de+cf}}{f}}} \, \left(-\text{dg+ch} \right) \sqrt{\left(f + \frac{\text{de-cf}}{c + \text{dx}} \right)} \left[h + \frac{\text{dg-ch}}{c + \text{dx}} \right] - \\ & \left[\sqrt{-\frac{\text{de+cf}}{f}} \, \left(-\text{dg+ch} \right) - \\ & \left[\sqrt{-\frac{\text{de+cf}}{f}} \, \left(-\text{dg+ch} \right) \right] \right] \right] \right] \right] \\ \\ & \left[\sqrt{-\frac{\text{de+cf}}{f}} \, \left(-\text{dg+ch} \right) - \\ & \left[\sqrt{-\frac{\text{de+cf}}{f}} \, \left(-\text{dg+ch} \right) \right] - \\ & \left[\sqrt{-\frac{\text{de+cf}}{f}}} \, \left(-\text{dg+ch} \right) \right] \right] \right] \\ \\ = \frac{\text{de+cf}}{f} \left[\sqrt{-\frac{\text{de+cf}}{f}} \, \left(-\text{dg+ch} \right) \right] - \\ & \left[\sqrt{-\frac{\text{de+cf}}{f}} \, \left(-\text{dg+ch} \right) \right] - \\ \\ & \left[\sqrt{-\frac{\text{de+cf}}{f}} \, \left(-\text{dg+ch} \right) \right] - \\ \\$$

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

$$\label{eq:final_continuous_con$$

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

$$\left[\text{EllipticE} \left[\text{i ArcSinh} \left[\frac{\sqrt{-\frac{-d\,e_{+}c\,f}{f}}}{\sqrt{c_{\,+}\,d\,x_{\,-}}} \right] \text{, } \frac{f\,\left(-\,d\,g_{\,+}\,c\,h\right)}{\left(-\,d\,e_{\,+}\,c\,f\right)\,h} \right] - \right.$$

$$\label{eq:final_continuous_con$$

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

$$\left[8 \; \text{$\stackrel{\circ}{\text{$\bot$}}$} \; b^2 \; B \; c^4 \; f^3 \; h^4 \; \sqrt{1 - \frac{-d \; e + c \; f}{f \; \left(c + d \; x\right)}} \; \sqrt{1 - \frac{-d \; g + c \; h}{h \; \left(c + d \; x\right)}} \; \left[\text{EllipticE} \left[\; \text{$\stackrel{\circ}{\text{$\bot$}}$} \; ArcSinh} \left[\; \frac{\sqrt{-\frac{-d \; e + c \; f}{f}}}{\sqrt{c + d \; x}} \right] \right] \right] \right] \; ,$$

$$\frac{f\left(-dg+ch\right)}{\left(-de+cf\right)h} \right] = EllipticF\left[i \, ArcSinh\left[\frac{\sqrt{\frac{-de+cf}{f}}}{\sqrt{c+dx}}\right], \, \frac{f\left(-dg+ch\right)}{\left(-de+cf\right)h}\right] \right]$$

$$\left[\sqrt{-\frac{-de+cf}{f}} \left(-dg+ch\right) \sqrt{\left(f+\frac{de-cf}{c+dx}\right) \left(h+\frac{dg-ch}{c+dx}\right)} - \frac{10 \, i \, Ab^2 \, c^3 \, df^3 \, h^4 \sqrt{1-\frac{-de+cf}{f}} \left(c+dx\right)}{\sqrt{c+dx}} \sqrt{1-\frac{-dg+ch}{h} \left(c+dx\right)} \right] - \frac{10 \, i \, Ab^2 \, c^3 \, df^3 \, h^4 \sqrt{1-\frac{-de+cf}{f}}}{\sqrt{c+dx}} \right], \, \frac{f\left(-dg+ch\right)}{\left(-de+cf\right)h} \right] - \frac{10 \, i \, ArcSinh\left[\frac{\sqrt{\frac{-de+cf}{f}}}{\sqrt{c+dx}}\right], \, \frac{f\left(-dg+ch\right)}{\left(-de+cf\right)h}}{\sqrt{c+dx}} - \frac{10 \, i \, ArcSinh\left[\frac{\sqrt{\frac{-de+cf}{f}}}{f\left(c+dx\right)} \sqrt{1-\frac{-dg+ch}{h} \left(c+dx\right)}\right]}{\sqrt{c+dx}} - \frac{10 \, i \, ArcSinh\left[\frac{\sqrt{\frac{-de+cf}{f}}}{f\left(c+dx\right)} \sqrt{1-\frac{-dg+ch}{h} \left(c+dx\right)}\right]}{\sqrt{1-de+cf} \, h} - \frac{10 \, i \, ArcSinh\left[\frac{\sqrt{\frac{-de+cf}{f}}}{f\left(c+dx\right)} \sqrt{1-\frac{-dg+ch}{h} \left(c+dx\right)}\right]}{\sqrt{1-de+cf} \, h} - \frac{10 \, i \, ArcSinh\left[\frac{\sqrt{\frac{-de+cf}{f}}}{f\left(c+dx\right)} \sqrt{1-\frac{-dg+ch}{h} \left(c+dx\right)}\right]}{\sqrt{1-de+cf} \, h} - \frac{10 \, i \, ArcSinh\left[\frac{\sqrt{\frac{-de+cf}{f}}}{f\left(c+dx\right)} \sqrt{1-\frac{-dg+ch}{h} \left(c+dx\right)}\right]}{\sqrt{1-de+cf} \, h} - \frac{10 \, i \, ArcSinh\left[\frac{\sqrt{\frac{-de+cf}{f}}}{f\left(c+dx\right)} \sqrt{1-\frac{-dg+ch}{h} \left(c+dx\right)}\right]}{\sqrt{1-de+cf} \, h} - \frac{10 \, i \, ArcSinh\left[\frac{\sqrt{\frac{-de+cf}{f}}}{f\left(c+dx\right)} \sqrt{1-\frac{-dg+ch}{h} \left(c+dx\right)}\right]}{\sqrt{1-de+cf} \, h} - \frac{10 \, i \, ArcSinh\left[\frac{\sqrt{\frac{-de+cf}{f}}}{f\left(c+dx\right)} \sqrt{1-\frac{-dg+ch}{h} \left(c+dx\right)}\right]}{\sqrt{1-de+cf} \, h} - \frac{10 \, i \, ArcSinh\left[\frac{\sqrt{\frac{-dg+ch}{f}}}{f\left(c+dx\right)} \sqrt{1-\frac{-dg+ch}{f} \left(c+dx\right)}\right]}{\sqrt{1-de+cf} \, h} - \frac{10 \, i \, ArcSinh\left[\frac{\sqrt{\frac{-dg+ch}{f}}}{f\left(c+dx\right)} \sqrt{1-\frac{-dg+ch}{f} \left(c+dx\right)}\right]}{\sqrt{1-dg+ch} \, h} - \frac{10 \, i \, ArcSinh\left[\frac$$

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

$$\left[\text{EllipticE} \left[\, \dot{\mathbb{1}} \, \, \text{ArcSinh} \left[\, \frac{\sqrt{-\, \frac{-d\, e + c\, f}{f}}}{\sqrt{c + d\, x}} \, \right] \, , \, \, \frac{f\, \left(-d\, g + c\, h \right)}{\left(-d\, e + c\, f \right)\, h} \, \right] \, - \right. \right]$$

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

$$\left[\text{EllipticE} \left[\text{i} \; \text{ArcSinh} \left[\; \frac{\sqrt{-\frac{-\text{d}\,\text{e+c}\,\text{f}}{\text{f}}}}{\sqrt{\text{c}+\text{d}\,\text{x}}} \right] \text{, } \frac{\text{f} \left(-\text{d}\,\text{g}+\text{c}\,\text{h} \right)}{\left(-\text{d}\,\text{e}+\text{c}\,\text{f} \right) \; \text{h}} \right] \; - \right] = \left[-\frac{\text{d}\,\text{e+c}\,\text{f}}{\sqrt{\text{c}+\text{d}\,\text{x}}} \right]$$

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

$$\label{eq:final_continuous_con$$

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

$$\label{eq:final_continuous_con$$

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

$$\label{eq:final_continuous_con$$

$$\left(\sqrt{-\frac{-\,d\,\,e\,+\,c\,\,f}{f}}\,\,\sqrt{\left(f+\,\frac{d\,\,e\,-\,c\,\,f}{c\,+\,d\,\,x}\right)\,\left(h\,+\,\frac{d\,\,g\,-\,c\,\,h}{c\,+\,d\,\,x}\right)}\,\,\right]\,+$$

$$\left[\text{i} \ b^2 \ B \ c \ d^2 \ e \ f^2 \ g \ h^2 \ \sqrt{ 1 - \frac{- d \ e + c \ f}{f \ \left(c + d \ x \right)} } \ \sqrt{ 1 - \frac{- d \ g + c \ h}{h \ \left(c + d \ x \right)} } \right]$$

$$\label{eq:final_continuous_con$$

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

$$\label{eq:final_continuous_con$$

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

$$\label{eq:final_continuous_con$$

$$\left(\sqrt{-\frac{-\,d\,\,e\,+\,c\,\,f}{f}}\,\,\sqrt{\left(f+\,\frac{d\,\,e\,-\,c\,\,f}{c\,+\,d\,\,x}\right)\,\left(h\,+\,\frac{d\,\,g\,-\,c\,\,h}{c\,+\,d\,\,x}\right)}\,\,\right]\,+$$

$$\label{eq:final_continuous_con$$

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

$$\label{eq:final_continuous_con$$

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

$$\label{eq:final_continuous_con$$

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

$$\label{eq:final_continuous_con$$

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

$$\label{eq:final_continuous_con$$

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

$$\label{eq:final_continuous_con$$

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

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

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

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

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

$$\sqrt{1-\frac{-\text{d}\,g+c\,h}{\text{h}\,\left(c+\text{d}\,x\right)}} \ \ \text{EllipticF}\left[\,\hat{\mathbb{1}}\,\,\text{ArcSinh}\left[\,\frac{\sqrt{-\frac{-\text{d}\,e+c\,f}{f}}}{\sqrt{c+\text{d}\,x}}\,\right]\,\text{,}\,\,\frac{f\,\left(-\,\text{d}\,g+c\,h\right)}{\left(-\,\text{d}\,e+c\,f\right)\,h}\,\right] \ \middle/$$

$$\sqrt{1 - \frac{-d \, g + c \, h}{h \, \left(c + d \, x\right)}} \; \; \text{EllipticF} \left[\, \dot{\mathbb{1}} \; \text{ArcSinh} \left[\, \frac{\sqrt{-\frac{-d \, e + c \, f}{f}}}{\sqrt{c + d \, x}} \, \right] \, , \; \frac{f \, \left(-d \, g + c \, h\right)}{\left(-d \, e + c \, f\right) \, h} \, \right] \, / \,$$

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

$$\label{eq:final_continuous_con$$

$$\left(\sqrt{-\frac{-\,d\,\,e\,+\,c\,\,f}{f}}\,\,\sqrt{\,\left(f+\frac{\,d\,\,e\,-\,c\,\,f}{c\,+\,d\,\,x}\,\right)\,\,\left(h+\frac{\,d\,\,g\,-\,c\,\,h}{c\,+\,d\,\,x}\,\right)}\,\,\right]\,+$$

$$\left(\sqrt{-\frac{-d\,e+c\,f}{f}}\,\,\sqrt{\left(f+\frac{d\,e-c\,f}{c+d\,x}\right)\,\left(h+\frac{d\,g-c\,h}{c+d\,x}\right)}\,\,\right|-$$

$$\left. \frac{f\left(-d\,g+c\,h\right)}{\left(-d\,e+c\,f\right)\,h} \right] \left| \left/ \left(\sqrt{-\frac{-d\,e+c\,f}{f}} \,\sqrt{\left(f+\frac{d\,e-c\,f}{c+d\,x}\right)\,\left(h+\frac{d\,g-c\,h}{c+d\,x}\right)} \,\right) \right| \right|$$

Problem 2: Result unnecessarily involves imaginary or complex numbers.

$$\int \frac{\left(\,a\,+\,b\,\,x\,\right)\;\,\left(\,A\,+\,B\,\,x\,\right)}{\sqrt{\,c\,+\,d\,\,x\,}}\,\,\sqrt{e\,+\,f\,\,x\,}\,\,\sqrt{g\,+\,h\,\,x\,}}\,\,\text{d}\,x$$

Optimal (type 4, 405 leaves, 8 steps):

$$\frac{2\,b\,B\,\sqrt{c\,+\,d\,x}\,\,\sqrt{e\,+\,f\,x}\,\,\sqrt{g\,+\,h\,x}}{3\,d\,f\,h} + \\ \left(2\,\sqrt{-\,d\,e\,+\,c\,f}\,\,\left(3\,a\,B\,d\,f\,h\,+\,b\,\left(3\,A\,d\,f\,h\,-\,2\,B\,\left(d\,f\,g\,+\,d\,e\,h\,+\,c\,f\,h\right)\right)\right)\,\,\sqrt{\frac{d\,\left(e\,+\,f\,x\right)}{d\,e\,-\,c\,f}}\,\,\sqrt{g\,+\,h\,x}} \right. \\ \left. EllipticE\left[ArcSin\left[\frac{\sqrt{f}\,\,\sqrt{c\,+\,d\,x}}{\sqrt{-\,d\,e\,+\,c\,f}}\right],\,\,\frac{\left(d\,e\,-\,c\,f\right)\,h}{f\,\left(d\,g\,-\,c\,h\right)}\right]\right/\left(3\,d^2\,f^{3/2}\,h^2\,\sqrt{e\,+\,f\,x}\,\,\sqrt{\frac{d\,\left(g\,+\,h\,x\right)}{d\,g\,-\,c\,h}}\right) - \\ \left(2\,\sqrt{-\,d\,e\,+\,c\,f}\,\,\left(3\,a\,d\,f\,h\,\left(B\,g\,-\,A\,h\right)\,+\,b\,\left(3\,A\,d\,f\,g\,h\,-\,B\,\left(c\,h\,\left(f\,g\,-\,e\,h\right)\,+\,d\,g\,\left(2\,f\,g\,+\,e\,h\right)\right)\right)\right) \\ \sqrt{\frac{d\,\left(e\,+\,f\,x\right)}{d\,e\,-\,c\,f}}\,\,\sqrt{\frac{d\,\left(g\,+\,h\,x\right)}{d\,g\,-\,c\,h}}\,\,EllipticF\left[ArcSin\left[\frac{\sqrt{f}\,\,\sqrt{c\,+\,d\,x}}{\sqrt{-\,d\,e\,+\,c\,f}}\right],\,\,\frac{\left(d\,e\,-\,c\,f\right)\,h}{f\,\left(d\,g\,-\,c\,h\right)}\right]\right/\left(3\,d^2\,f^{3/2}\,h^2\,\sqrt{e\,+\,f\,x}\,\,\sqrt{g\,+\,h\,x}\right) \\ \left(3\,d^2\,f^{3/2}\,h^2\,\sqrt{e\,+\,f\,x}\,\,\sqrt{g\,+\,h\,x}\right) \\ \left(3\,d^2\,f^{3/2}\,h^2\,\sqrt{e\,+\,f\,x}\,\,\sqrt{g\,+\,h\,x}\right)$$

Result (type 4, 450 leaves):

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

Problem 3: Result unnecessarily involves imaginary or complex numbers.

$$\int \frac{A+Bx}{\sqrt{c+dx} \sqrt{e+fx} \sqrt{g+hx}} dx$$

Optimal (type 4, 284 leaves, 6 steps):

$$\left[2\,B\,\sqrt{-\,d\,e + c\,f}\,\,\sqrt{\frac{d\,\left(e + f\,x\right)}{d\,e - c\,f}}\,\,\sqrt{g + h\,x}\,\,\text{EllipticE}\left[\text{ArcSin}\left[\,\frac{\sqrt{f}\,\,\sqrt{c + d\,x}}{\sqrt{-d\,e + c\,f}}\,\right]\,,\,\,\frac{\left(d\,e - c\,f\right)\,h}{f\,\left(d\,g - c\,h\right)}\,\right] \right] / \\ \left[d\,\sqrt{f}\,\,h\,\sqrt{e + f\,x}\,\,\sqrt{\frac{d\,\left(g + h\,x\right)}{d\,g - c\,h}}\,\,-\,\left[2\,\sqrt{-d\,e + c\,f}\,\,\left(B\,g - A\,h\right)\,\,\sqrt{\frac{d\,\left(e + f\,x\right)}{d\,e - c\,f}}\,\,\sqrt{\frac{d\,\left(g + h\,x\right)}{d\,g - c\,h}}\,\right] \right] / \\ \left[\text{EllipticF}\left[\text{ArcSin}\left[\,\frac{\sqrt{f}\,\,\sqrt{c + d\,x}}{\sqrt{-d\,e + c\,f}}\,\right]\,,\,\,\frac{\left(d\,e - c\,f\right)\,h}{f\,\left(d\,g - c\,h\right)}\,\right] \right] / \left(d\,\sqrt{f}\,\,h\,\sqrt{e + f\,x}\,\,\sqrt{g + h\,x}\,\right)$$

Result (type 4, 319 leaves):

$$-\left(\left|2\left|-B\,d^2\,\sqrt{-\,c+\frac{d\,e}{f}}\right.\left(e+f\,x\right)\,\left(g+h\,x\right)-i\,B\,\left(d\,e-c\,f\right)\,h\,\left(c+d\,x\right)^{3/2}\,\sqrt{\frac{d\,\left(e+f\,x\right)}{f\,\left(c+d\,x\right)}}\,\,\sqrt{\frac{d\,\left(g+h\,x\right)}{h\,\left(c+d\,x\right)}}\right)\right.$$

$$EllipticE\left[i\,ArcSinh\left[\frac{\sqrt{-\,c+\frac{d\,e}{f}}}{\sqrt{c+d\,x}}\right],\,\frac{d\,f\,g-c\,f\,h}{d\,e\,h-c\,f\,h}\right]+i\,d\,\left(B\,e-A\,f\right)\,h\,\left(c+d\,x\right)^{3/2}$$

$$\sqrt{\frac{d\,\left(e+f\,x\right)}{f\,\left(c+d\,x\right)}}\,\,\sqrt{\frac{d\,\left(g+h\,x\right)}{h\,\left(c+d\,x\right)}}\,\,EllipticF\left[i\,ArcSinh\left[\frac{\sqrt{-\,c+\frac{d\,e}{f}}}{\sqrt{c+d\,x}}\right],\,\frac{d\,f\,g-c\,f\,h}{d\,e\,h-c\,f\,h}\right]}\right)\right)$$

Problem 4: Result unnecessarily involves imaginary or complex numbers.

$$\int\!\frac{A+B\,x}{\left(a+b\,x\right)\,\sqrt{c+d\,x}\,\,\sqrt{e+f\,x}\,\,\sqrt{g+h\,x}}\,\,\text{d}x$$

Optimal (type 4, 313 leaves, 9 steps):

$$\left[2\,B\,\sqrt{-\,d\,e + c\,f} \,\sqrt{\frac{d\,\left(e + f\,x\right)}{d\,e - c\,f}} \,\sqrt{\frac{d\,\left(g + h\,x\right)}{d\,g - c\,h}} \,\, \text{EllipticF}\left[\text{ArcSin}\left[\frac{\sqrt{f}\,\,\sqrt{c + d\,x}}{\sqrt{-d\,e + c\,f}}\right],\, \frac{\left(d\,e - c\,f\right)\,h}{f\,\left(d\,g - c\,h\right)}\right] \right] / \\ \left(b\,d\,\sqrt{f}\,\,\sqrt{e + f\,x}\,\,\sqrt{g + h\,x}\,\right) - \\ \left[2\,\left(A - \frac{a\,B}{b}\right)\sqrt{-d\,e + c\,f}\,\,\sqrt{\frac{d\,\left(e + f\,x\right)}{d\,e - c\,f}}\,\,\sqrt{\frac{d\,\left(g + h\,x\right)}{d\,g - c\,h}} \,\, \text{EllipticPi}\left[-\frac{b\,\left(d\,e - c\,f\right)}{\left(b\,c - a\,d\right)\,f},\, \right. \right. \\ \left. \text{ArcSin}\left[\frac{\sqrt{f}\,\,\sqrt{c + d\,x}}{\sqrt{-d\,e + c\,f}}\right],\, \frac{\left(d\,e - c\,f\right)\,h}{f\,\left(d\,g - c\,h\right)}\right] \right/ \left(\left(b\,c - a\,d\right)\,\sqrt{f}\,\,\sqrt{e + f\,x}\,\,\sqrt{g + h\,x}\right)$$

Result (type 4, 244 leaves):

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

$$\left. \left(-A \, b + a \, B \right) \, d \, \text{EllipticPi} \left[\, \frac{\left(b \, c - a \, d \right) \, f}{b \, \left(-d \, e + c \, f \right)} \, , \, \, \text{i} \, \text{ArcSinh} \left[\, \frac{\sqrt{-c + \frac{de}{f}}}{\sqrt{c + d \, x}} \, \right] \, , \, \, \frac{d \, f \, g - c \, f \, h}{d \, e \, h - c \, f \, h} \, \right] \right]$$

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

Problem 5: Result unnecessarily involves complex numbers and more than twice size of optimal antiderivative.

$$\int \frac{A+Bx}{\left(a+bx\right)^2\sqrt{c+dx}} \sqrt{e+fx} \sqrt{g+hx} dx$$

Optimal (type 4, 678 leaves, 12 steps):

Result (type 4, 14516 leaves):

$$- \frac{ b \, \left(A \, b - a \, B \right) \, \sqrt{c + d \, x} \, \sqrt{e + f \, x} \, \sqrt{g + h \, x} }{ \left(b \, c - a \, d \right) \, \left(b \, e - a \, f \right) \, \left(b \, g - a \, h \right) \, \left(a + b \, x \right) } \, - \\[1em]$$

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

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

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

$$\begin{split} &\sqrt{-\frac{-d\,g+c\,h}{h}} \ \sqrt{\left(f\,h+\frac{d^2\,e\,g-c\,d\,f\,g-c\,d\,e\,h+c^2\,f\,h}{\left(c+d\,x\right)^2} + \frac{d\,f\,g+d\,e\,h-2\,c\,f\,h}{c+d\,x}\right)} - \\ & \left[i\,A\,b\,c\,d\,e\,f\,h \, \sqrt{1-\frac{-d\,e+c\,f}{f\,\left(c+d\,x\right)}} \, \sqrt{1-\frac{-d\,g+c\,h}{h\,\left(c+d\,x\right)}} \, \left[EllipticE\left[i\,ArcSinh\left[\frac{\sqrt{-\frac{-d\,g+c\,h}{h}}}{\sqrt{c+d\,x}}\right], \frac{\left(-d\,e+c\,f\right)\,h}{f\,\left(-d\,g+c\,h\right)}\right] \right] \\ & \left[\frac{\left(-d\,e+c\,f\right)\,h}{f\,\left(-d\,g+c\,h\right)}\right] - EllipticF\left[i\,ArcSinh\left[\frac{\sqrt{-\frac{-d\,g+c\,h}{h}}}{\sqrt{c+d\,x}}\right], \frac{\left(-d\,e+c\,f\right)\,h}{f\,\left(-d\,g+c\,h\right)}\right] \right] \\ & \left[\left(b\,c-a\,d\right) \, \left(-d\,e+c\,f\right) \, \sqrt{-\frac{-d\,g+c\,h}{h}} \, \sqrt{\left(f\,h+\frac{d^2\,e\,g-c\,d\,f\,g-c\,d\,e\,h+c^2\,f\,h}{\left(c+d\,x\right)^2}} + \frac{d\,f\,g+d\,e\,h-2\,c\,f\,h}{h\,\left(c+d\,x\right)} \right] \\ & \sqrt{1-\frac{-d\,g+c\,h}{h\,\left(c+d\,x\right)}} \, \left[EllipticE\left[i\,ArcSinh\left[\frac{\sqrt{-\frac{-d\,g+c\,h}{h}}}{\sqrt{c+d\,x}}\right], \frac{\left(-d\,e+c\,f\right)\,h}{f\,\left(-d\,g+c\,h\right)}\right] - \\ & EllipticF\left[i\,ArcSinh\left[\frac{\sqrt{-\frac{-d\,g+c\,h}{h}}}{\sqrt{c+d\,x}}\right], \frac{\left(-d\,e+c\,f\right)\,h}{f\,\left(-d\,g+c\,h\right)} \right] \\ & \sqrt{-\frac{-d\,g+c\,h}{h}} \, \sqrt{\left(f\,h+\frac{d^2\,e\,g-c\,d\,f\,g-c\,d\,e\,h+c^2\,f\,h}{\left(c+d\,x\right)^2}} + \frac{d\,f\,g+d\,e\,h-2\,c\,f\,h}{c+d\,x} \right] + \\ & \frac{1\,A\,b\,c^2\,f^2\,h}{f\,\left(c+d\,x\right)} \, \sqrt{1-\frac{-d\,g+c\,h}{h\,\left(c+d\,x\right)}} \, \left[EllipticE\left[i\,ArcSinh\left[\frac{\sqrt{-\frac{-d\,g+c\,h}{h}}}{c+d\,x}\right], \frac{\left(-\frac{-d\,g+c\,h}{h}\right)}{\sqrt{c+d\,x}}\right]} \right] \\ & \frac{1\,A\,b\,c^2\,f^2\,h}{h\,\left(c+d\,x\right)} \, \sqrt{1-\frac{-d\,g+c\,h}{h\,\left(c+d\,x\right)}} \, \left[EllipticE\left[i\,ArcSinh\left[\frac{\sqrt{-\frac{-d\,g+c\,h}{h}}}{c+d\,x}\right], \frac{\left(-\frac{-d\,g+c\,h}{h}\right)}{\sqrt{c+d\,x}}\right]} \right] \\ & \frac{1\,A\,b\,c^2\,f^2\,h}{h\,\left(c+d\,x\right)} \, \sqrt{1-\frac{-d\,g+c\,h}{h\,\left(c+d\,x\right)}} \, \left[EllipticE\left[i\,ArcSinh\left[\frac{\sqrt{-\frac{-d\,g+c\,h}{h}}}{c+d\,x}\right], \frac{\left(-\frac{-d\,g+c\,h}{h}\right)}{\sqrt{c+d\,x}}\right] \right] \\ & \frac{1\,A\,b\,c^2\,f^2\,h}{h\,\left(c+d\,x\right)} \, \sqrt{1-\frac{-d\,g+c\,h}{h\,\left(c+d\,x\right)}} \, \left[EllipticE\left[i\,ArcSinh\left[\frac{\sqrt{-\frac{-d\,g+c\,h}{h}}}{c+d\,x}\right] \right] + \frac{1\,A\,b\,c^2\,f^2\,h}{h\,\left(c+d\,x\right)} \, \left(-\frac{-d\,g+c\,h}{h\,\left(c+d\,x\right)}\right)} \right] \\ & \frac{1\,A\,b\,c^2\,f^2\,h}{h\,\left(c+d\,x\right)} \, \sqrt{1-\frac{-d\,g+c\,h}{h\,\left(c+d\,x\right)}} \, \left(-\frac{-d\,g+c\,h}{h\,\left(c+d\,x\right)} \right) + \frac{1\,A\,b\,c^2\,f^2\,h}{h\,\left(c+d\,x\right)} \, \left(-\frac{-d\,g+c\,h}{h\,\left(c+d\,x\right)}\right) + \frac{1\,A\,b\,c^2\,f^2\,h}{h\,\left(c+d\,x\right)} \, \left(-\frac{-d\,g+c\,h}{h\,\left(c+d\,x\right)} \right) + \frac{1\,A\,b\,c^2\,f^2\,h}{h\,\left(c+d\,x\right)} \, \left(-\frac{-d\,g+c\,h}{h\,\left(c+d\,x\right)} \right) + \frac{1\,A\,b\,c^2\,f^2\,h}{h\,\left(c+d\,x\right)} \, \left(-\frac{-d\,g+c\,h}{h\,\left(c+d\,x\right)} \right) + \frac{1\,A\,b\,c^2\,f^2\,h}{h\,\left(c+d\,x\right)} \,$$

$$\begin{split} & \left[i \, a \, b \, B \, d^2 \, e \, g \, \sqrt{1 - \frac{-d \, e + c \, f}{f \, \left(c + d \, x\right)}} \, \sqrt{1 - \frac{-d \, g + c \, h}{h \, \left(c + d \, x\right)}} \, EllipticF \right[\\ & \left[i \, Arc Sinh \left[\frac{\sqrt{-\frac{-d \, g + c \, h}{h}}}{\sqrt{c + d \, x}} \right], \, \frac{\left(-d \, e + c \, f\right) \, h}{f \, \left(-d \, g + c \, h\right)} \right] \middle/ \left(\left(b \, c - a \, d\right)^2 \, \sqrt{-\frac{-d \, g + c \, h}{h}} \right. \\ & \left[\sqrt{\left(f \, h + \frac{d^2 \, e \, g - c \, d \, f \, g - c \, d \, e \, h + c^2 \, f \, h}{\left(c + d \, x\right)^2} + \frac{d \, f \, g + d \, e \, h - 2 \, c \, f \, h}{c + d \, x} \right) \right) + \\ & \left[2 \, i \, b \, B \, d \, e \, g \, \sqrt{1 - \frac{-d \, e + c \, f}{f \, \left(c + d \, x\right)}} \, \sqrt{1 - \frac{-d \, g + c \, h}{h \, \left(c + d \, x\right)}} \, EllipticF \right[\\ & \left[i \, Arc Sinh \left[\frac{\sqrt{-\frac{-d \, g + c \, h}{h}}}{\sqrt{c + d \, x}} \right], \, \frac{\left(-d \, e + c \, f\right) \, h}{f \, \left(-d \, g + c \, h\right)} \right] \middle/ \left(\left(b \, c - a \, d\right) \, \sqrt{-\frac{-d \, g + c \, h}{h}} \right. \\ & \left[i \, A \, b^2 \, c \, d \, f \, g \, - c \, d \, f \, g - c \, d \, e \, h + c^2 \, f \, h}{f \, \left(c + d \, x\right)} \, EllipticF \right[\\ & \left[i \, Arc Sinh \left[\frac{\sqrt{-\frac{-d \, g + c \, h}{f \, \left(c + d \, x\right)}}}{\sqrt{c + d \, x}} \right], \, \frac{\left(-d \, e + c \, f\right) \, h}{f \, \left(-d \, g + c \, h\right)} \right] \middle/ \left(\left(b \, c - a \, d\right)^2 \, \sqrt{-\frac{-d \, g + c \, h}{h}} \right. \\ & \left[\sqrt{f \, h + \frac{d^2 \, e \, g - c \, d \, f \, g - c \, d \, e \, h + c^2 \, f \, h}{f \, \left(-d \, g + c \, h\right)}} \right] \middle/ \left(\left(b \, c - a \, d\right)^2 \, \sqrt{-\frac{-d \, g + c \, h}{h}} \right) - \\ & \sqrt{\left(f \, h + \frac{d^2 \, e \, g - c \, d \, f \, g - c \, d \, e \, h + c^2 \, f \, h}{\left(c + d \, x\right)^2} + \frac{d \, f \, g + d \, e \, h - 2 \, c \, f \, h}{c + d \, x}} \right) - \\ & - \frac{d \, g + c \, h}{h} \, \left(c + d \, x\right)^2 + \frac{d \, f \, g + d \, e \, h - 2 \, c \, f \, h}{c + d \, x}} \right) - \\ & - \frac{d \, g + c \, h}{c + d \, x} \, \left(c + d \, x\right)^2 + \frac{d \, f \, g + d \, e \, h - 2 \, c \, f \, h}{c + d \, x}} \right) - \\ & - \frac{d \, g + c \, h}{c + d \, x} \, \left(c + d \, x\right)^2 + \frac{d \, f \, g + d \, e \, h}{c + d \, x}} \right) - \frac{d \, g + c \, h}{c + d \, x} \, \left(c + d \, x\right)^2 - \frac{d \, g + c \, h}{c + d \, x} \right) - \frac{d \, g + c \, h}{c + d \, x} \right) - \\ & - \frac{d \, g + c \, h}{c + d \, x} \, \left(c + d \, x\right)^2 + \frac{d \, g + d \, g + d \, h}{c + d \, x} \right) - \frac{d \, g + c \, h}{c + d \, x} \, \left(c + d \, x\right)^2 - \frac{d \, g + c \, h}{c + d \, x} \right) - \frac{d \, g + c$$

$$\begin{split} & \left[\text{i} \; \text{a} \; \text{b} \; \text{B} \; \text{c} \; \text{d} \; \text{f} \; g \; \sqrt{1 - \frac{-d \; \text{g} + \text{c} \; \text{f}}{\text{f} \; \left(\text{c} + \text{d} \; \text{x} \right)}} \; \; \sqrt{1 - \frac{-d \; \text{g} + \text{c} \; \text{h}}{\text{h} \; \left(\text{c} + \text{d} \; \text{x} \right)}} \; \; \text{EllipticF} \left[\right. \\ & \left. \text{i} \; \text{ArcSinh} \left[\; \frac{\sqrt{-\frac{-d \; \text{g} + \text{c} \; \text{h}}{\text{h}}}}{\sqrt{\text{c} + \text{d} \; \text{x}}} \right] \text{,} \; \; \frac{\left(-d \; \text{e} + \text{c} \; \text{f} \right) \; \text{h}}{\text{f} \; \left(-d \; \text{g} + \text{c} \; \text{h} \right)} \right] \; \middle/ \; \left[\left(\text{b} \; \text{c} - \text{a} \; \text{d} \right)^2 \; \sqrt{-\frac{-d \; \text{g} + \text{c} \; \text{h}}{\text{h}}} \right] \end{split}$$

$$\sqrt{\left(f\,h\,+\,\,\frac{\,d^{2}\,e\,g\,-\,c\,\,d\,f\,g\,-\,c\,\,d\,e\,h\,+\,\,c^{\,2}\,\,f\,h}{\,\,\left(\,c\,+\,d\,\,x\,\right)^{\,2}}\,+\,\,\frac{\,d\,f\,g\,+\,d\,e\,\,h\,-\,2\,\,c\,\,f\,h}{\,\,c\,+\,d\,\,x}\,\right)\,\right]\,\,-\,\,d^{2}\,g\,g\,-\,c\,\,d\,f\,g\,-\,c\,\,d\,g\,-\,c\,\,d\,g\,g\,-\,c\,\,d\,g\,g\,-\,c\,\,d\,g\,g\,-\,c\,\,d\,g\,g\,-\,c\,\,d\,g\,g\,-\,c\,\,d\,g\,-\,c\,\,d\,g\,g\,-\,c\,\,d\,g\,g\,-\,c\,\,d\,g\,g\,-\,c\,\,d\,g\,-\,c\,$$

$$\label{eq:continuous_section} 2\,\,\dot{\mathbb{1}}\,\,\mathsf{A}\,\,\mathsf{b}\,\,\mathsf{d}\,\,\mathsf{f}\,\,\mathsf{g}\,\,\sqrt{\,\mathbf{1}-\frac{-\,\mathsf{d}\,\,\mathsf{e}\,+\,\mathsf{c}\,\,\mathsf{f}\,\,}{\,\mathsf{f}\,\,\left(\,\mathsf{c}\,+\,\mathsf{d}\,\,\mathsf{x}\,\right)}}}\,\,\,\sqrt{\,\mathbf{1}-\frac{-\,\mathsf{d}\,\,\mathsf{g}\,+\,\mathsf{c}\,\,\mathsf{h}\,\,}{\,\mathsf{h}\,\,\left(\,\mathsf{c}\,+\,\mathsf{d}\,\,\mathsf{x}\,\right)}}\,\,\,\mathsf{EllipticF}\left[\,\,\mathsf{e}\,\,\mathsf{f}\,\,\mathsf{g}\,\,\mathsf$$

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

$$\sqrt{\left(f\,h\,+\,\,\frac{\,d^2\,e\,g\,-\,c\,\,d\,f\,g\,-\,c\,\,d\,e\,\,h\,+\,\,c^2\,f\,h}{\left(\,c\,+\,d\,\,x\,\right)^{\,2}}\,+\,\,\frac{\,d\,f\,g\,+\,d\,e\,\,h\,-\,2\,\,c\,\,f\,h}{\,c\,+\,d\,\,x}\,\right)\,}\right]\,\,-\,$$

$$\left[i \ ab \ B \ c \ d \ e \ h \sqrt{1 - \frac{-d \ e + c \ f}{f \left(c + d \ x\right)}} \ \sqrt{1 - \frac{-d \ g + c \ h}{h \left(c + d \ x\right)}} \ EllipticF \right[$$

$$i \ Arc Sinh \left[\frac{\sqrt{-\frac{-d \ e + c \ f}{h}}}{\sqrt{c + d \ x}} \right], \ \frac{\left(-d \ e + c \ f\right) \ h}{f \left(-d \ g + c \ h\right)} \right] \middle/ \left(\left(b \ c - a \ d\right)^2 \sqrt{-\frac{-d \ g + c \ h}{h}} \right)$$

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

$$\left[2 \ i \ Ab \ d \ e \ h \sqrt{1 - \frac{-d \ g + c \ f}{f \left(c + d \ x\right)}} \ \sqrt{1 - \frac{-d \ g + c \ h}{h \left(c + d \ x\right)}} \ EllipticF \right[$$

$$i \ Arc Sinh \left[\frac{\sqrt{-\frac{-d \ g + c \ h}{h}}}{\left(c + d \ x\right)^2} \right], \ \frac{\left(-d \ e + c \ f\right) \ h}{f \left(-d \ g + c \ h\right)} \right] \middle/ \left(\left(b \ c - a \ d\right) \sqrt{-\frac{-d \ g + c \ h}{h}} \right) -$$

$$\left[i \ Ab^2 \ c^2 \ f \ h \sqrt{1 - \frac{-d \ e + c \ f}{f \left(c + d \ x\right)}} \ \sqrt{1 - \frac{-d \ g + c \ h}{h \left(c + d \ x\right)}} \ EllipticF \right[$$

$$i \ Arc Sinh \left[\frac{\sqrt{-\frac{-d \ g + c \ h}{f \left(c + d \ x\right)}} \ \sqrt{1 - \frac{-d \ g + c \ h}{h \left(c + d \ x\right)}} \ EllipticF \right[$$

$$i \ Arc Sinh \left[\frac{\sqrt{-\frac{-d \ g + c \ h}{f \left(c + d \ x\right)}} \ \sqrt{1 - \frac{-d \ g + c \ h}{h \left(c + d \ x\right)}} \ + \frac{d \ f \ g + d \ e \ h - 2 \ c \ f \ h}{c + d \ x} \right] +$$

$$\begin{split} & \left[\text{i} \, a \, b \, B \, c^2 \, f \, h \, \sqrt{1 - \frac{-d \, e + c \, f}{f \, \left(c + d \, x\right)}} \, \sqrt{1 - \frac{-d \, g + c \, h}{h \, \left(c + d \, x\right)}} \, \, EllipticF \right[\\ & \left[\text{i} \, ArcSinh \left[\frac{\sqrt{-\frac{-d \, g + c \, h}{h}}}{\sqrt{c + d \, x}} \right], \, \frac{\left(-d \, e + c \, f\right) \, h}{f \, \left(-d \, g + c \, h\right)} \right] \, \middle/ \, \left(\left(b \, c - a \, d \right)^2 \, \sqrt{-\frac{-d \, g + c \, h}{h}} \right. \\ & \left[\sqrt{\left(f \, h + \frac{d^2 \, e \, g - c \, d \, f \, g - c \, d \, e \, h + c^2 \, f \, h}{\left(c + d \, x\right)^2} + \frac{d \, f \, g + d \, e \, h - 2 \, c \, f \, h}{c + d \, x} \right) \right] + \\ & \left[2 \, i \, A \, b \, c \, f \, h \, \sqrt{1 - \frac{-d \, g + c \, f}{f \, \left(c + d \, x\right)}} \, \sqrt{1 - \frac{-d \, g + c \, h}{h \, \left(c + d \, x\right)}} \, EllipticF \right[\\ & \left[i \, ArcSinh \left[\frac{\sqrt{-\frac{-d \, g + c \, h}{f \, \left(c + d \, x\right)}} \, \sqrt{\left(-d \, g + c \, f\right) \, h}} \right] \right] \right/ \left(\left(b \, c - a \, d \right) \, \sqrt{-\frac{-d \, g + c \, h}{h}} \\ & \left[2 \, i \, a \, B \, c \, f \, h \, \sqrt{1 - \frac{-d \, g + c \, f}{f \, \left(c + d \, x\right)}} \, \sqrt{1 - \frac{-d \, g + c \, h}{h \, \left(c + d \, x\right)}} \, EllipticF \right[\\ & \left[i \, ArcSinh \left[\frac{\sqrt{-\frac{-d \, g + c \, h}{f \, \left(c + d \, x\right)}} \, \sqrt{1 - \frac{-d \, g + c \, h}{h \, \left(c + d \, x\right)}} \, EllipticF \right] \right] \\ & \left[i \, ArcSinh \left[\frac{\sqrt{-\frac{-d \, g + c \, h}{f \, \left(c + d \, x\right)}}}{\sqrt{c + d \, x}} \, \right], \, \frac{\left(-d \, e + c \, f\right) \, h}{f \, \left(-d \, g + c \, h\right)} \right] \right] \right/ \left(\left(b \, c - a \, d \right) \, \sqrt{-\frac{-d \, g + c \, h}{h}}} \end{aligned}$$

 $\sqrt{\left| f h + \frac{d^2 e g - c d f g - c d e h + c^2 f h}{\left(c + d x\right)^2} + \frac{d f g + d e h - 2 c f h}{c + d x} \right| + \frac{d f g + d e h}{c + d x}} \right| + \frac{d f g + d e h}{c + d x}$

$$ab^2Bd^2eg\left[\left(ic\sqrt{1-\frac{-de+cf}{f\left(c+dx\right)}}\sqrt{1-\frac{-dg+ch}{h\left(c+dx\right)}}\right] + \frac{(bc-ad)h}{h\left(c+dx\right)}\right]\right]$$

$$iArcSinh\left[\frac{\sqrt{-\frac{-dg+ch}{h}}}{\sqrt{c+dx}}\right], \frac{(-de+cf)h}{f\left(-dg+ch\right)}\right] / \left[\sqrt{-\frac{-dg+ch}{h}}\sqrt{\left(fh+\frac{d^2g}{c+dx}-\frac{2cfh}{c-dx}\right)}\right] - \frac{d^2eg}{(c+dx)^2} - \frac{cdfg}{(c+dx)^2} - \frac{cdeh}{(c+dx)^2} + \frac{c^2fh}{(c+dx)^2} + \frac{dfg}{c+dx} + \frac{deh}{c+dx} - \frac{2cfh}{c-dx}\right] - \frac{d^2eg}{(c+dx)^2}, iArcSinh\left[\frac{\sqrt{-\frac{-dg+ch}{h}}}{\sqrt{c+dx}}\right], \frac{(-de+cf)h}{f\left(-dg+ch\right)}\right] / \left[b\sqrt{-\frac{-dg+ch}{h}}\sqrt{\left(fh+\frac{d^2eg}{(c+dx)^2}-\frac{cdeh}{(c+dx)^2}}\right] - \frac{cdfg}{(c+dx)^2} - \frac{cdeh}{(c+dx)^2} + \frac{c^2fh}{(c+dx)^2} + \frac{dfg}{c+dx} + \frac{deh}{c+dx} - \frac{2cfh}{c+dx}\right] - \frac{1}{(bc-ad)^2}$$

$$2b^2Bdeg\left[\left(ic\sqrt{1-\frac{-de+cf}{f\left(c+dx\right)}}\sqrt{1-\frac{-dg+ch}{h\left(c+dx\right)}}\right] + \frac{1}{(-dg+ch)}\right] / \left[\sqrt{-\frac{-dg+ch}{h}}\sqrt{\left(fh+\frac{d^2eg}{c+dx}-\frac{deh}{c+dx}-\frac{2cfh}{c+dx}\right)}\right] - \frac{1}{(bc-ad)^2}$$

$$\frac{d^2eg}{(c+dx)^2} - \frac{cdfg}{(c+dx)^2} - \frac{cdeh}{(c+dx)^2} + \frac{c^2fh}{(c+dx)^2} + \frac{dfg}{c+dx} + \frac{deh}{c+dx} - \frac{2cfh}{c+dx}\right] - \frac{d^2eg}{(c+dx)^2} - \frac{cdfg}{(c+dx)^2} - \frac{cdeh}{(c+dx)^2} + \frac{c^2fh}{(c+dx)^2} + \frac{dfg}{c+dx} + \frac{deh}{c+dx} - \frac{2cfh}{c+dx}\right] - \frac{d^2eg}{(c+dx)^2} - \frac{cdfg}{(c+dx)^2} - \frac{cdeh}{(c+dx)^2} + \frac{c^2fh}{(c+dx)^2} + \frac{dfg}{c+dx} + \frac{deh}{c+dx} - \frac{2cfh}{c+dx}\right] - \frac{d^2eg}{(c+dx)^2} - \frac{cdfg}{(c+dx)^2} - \frac{cdeh}{(c+dx)^2} + \frac{c^2fh}{(c+dx)^2} + \frac{dfg}{(c+dx)^2} + \frac{deh}{c+dx} - \frac{2cfh}{c+dx}$$

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

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

$$A\,b^3\,c\,d\,f\,g\,\left(\left[\begin{smallmatrix} \frac{1}{2}\,c\,\sqrt{1-\frac{-\,d\,e+c\,f}{f\,\left(\,c+d\,x\,\right)}} & \sqrt{1-\frac{-\,d\,g+c\,h}{h\,\left(\,c+d\,x\,\right)}} & \text{EllipticPi}\left[\,\frac{\left(\,b\,c\,-\,a\,d\,\right)\,h}{b\,\left(\,-\,d\,g+c\,h\,\right)}\,,\right.\right.\right)$$

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

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

$$\mathbb{1} \operatorname{ArcSinh} \Big[\frac{\sqrt{-\frac{-d \, g + c \, h}{h}}}{\sqrt{c + d \, x}} \Big] \text{, } \frac{\left(-\, d \, e + c \, f\right) \, h}{f \, \left(-\, d \, g + c \, h\right)} \Big] \Bigg] \Bigg/ \left(b \, \sqrt{-\frac{-\, d \, g + c \, h}{h}} \, \sqrt{\left(f \, h + c \, h\right)^2 + \left(-\frac{d \, g + c \, h}{h}\right)^2} \right) \Bigg/ \left(b \, \sqrt{-\frac{-\, d \, g + c \, h}{h}} \right) \Bigg/ \left(b \, \sqrt{-\frac{-\, d \, g + c \, h}{h}} \right) \Bigg/ \left(b \, \sqrt{-\frac{-\, d \, g + c \, h}{h}} \right) \Bigg/ \left(b \, \sqrt{-\frac{-\, d \, g + c \, h}{h}} \right) \Bigg/ \left(b \, \sqrt{-\frac{-\, d \, g + c \, h}{h}} \right) \Bigg/ \left(b \, \sqrt{-\frac{-\, d \, g + c \, h}{h}} \right) \Bigg/ \left(b \, \sqrt{-\frac{-\, d \, g + c \, h}{h}} \right) \Bigg/ \left(b \, \sqrt{-\frac{-\, d \, g + c \, h}{h}} \right) \Bigg/ \left(b \, \sqrt{-\frac{-\, d \, g + c \, h}{h}} \right) \Bigg/ \left(b \, \sqrt{-\frac{-\, d \, g + c \, h}{h}} \right) \Bigg/ \left(b \, \sqrt{-\frac{-\, d \, g + c \, h}{h}} \right) \Bigg/ \left(b \, \sqrt{-\frac{-\, d \, g + c \, h}{h}} \right) \Bigg/ \left(b \, \sqrt{-\frac{-\, d \, g + c \, h}{h}} \right) \Bigg/ \left(b \, \sqrt{-\frac{-\, d \, g + c \, h}{h}} \right) \Bigg/ \left(b \, \sqrt{-\frac{-\, d \, g + c \, h}{h}} \right) \Bigg/ \Bigg(b \, \sqrt{-\frac{-\, d \, g + c \, h}{h}} \Bigg) \Bigg/ \left(b \, \sqrt{-\frac{-\, d \, g + c \, h}{h}} \right) \Bigg/ \left(b \, \sqrt{-\frac{-\, d \, g + c \, h}{h}} \right) \Bigg/ \left(b \, \sqrt{-\frac{-\, d \, g + c \, h}{h}} \right) \Bigg/ \left(b \, \sqrt{-\frac{-\, d \, g + c \, h}{h}} \right) \Bigg/ \left(b \, \sqrt{-\frac{-\, d \, g + c \, h}{h}} \right) \Bigg/ \left(b \, \sqrt{-\frac{-\, d \, g + c \, h}{h}} \right) \Bigg/ \left(b \, \sqrt{-\frac{-\, d \, g + c \, h}{h}} \right) \Bigg/ \Bigg(b \, \sqrt{-\frac{-\, d \, g + c \, h}{h}} \Bigg) \Bigg/ \Bigg(b \, \sqrt{-\frac{-\, d$$

$$\frac{d^2\,e\,g}{\left(\,c\,+\,d\,\,x\,\right)^{\,2}}\,-\,\frac{c\,d\,f\,g}{\left(\,c\,+\,d\,\,x\,\right)^{\,2}}\,-\,\frac{c\,d\,e\,h}{\left(\,c\,+\,d\,\,x\,\right)^{\,2}}\,+\,\frac{c^2\,f\,h}{\left(\,c\,+\,d\,\,x\,\right)^{\,2}}\,+\,\frac{d\,f\,g}{c\,+\,d\,\,x}\,+\,\frac{d\,e\,h}{c\,+\,d\,\,x}\,-\,\frac{2\,c\,f\,h}{c\,+\,d\,\,x}\,\right)\,\Bigg]\,\,+\,\frac{d^2\,e\,g}{\left(\,c\,+\,d\,\,x\,\right)^{\,2}}\,+\,\frac{d^2\,e\,g}{\left(\,c\,+\,d\,\,x\,\right)^{\,2}}\,+\,\frac{d^2\,e\,g}{c\,+\,d\,\,x}\,+\,\frac{d\,e\,h}{c\,+\,d\,\,x}\,-\,\frac{2\,c\,f\,h}{c\,+\,d\,\,x}\,\Bigg)\,\Bigg]\,+\,\frac{d^2\,e\,g}{\left(\,c\,+\,d\,\,x\,\right)^{\,2}}\,+\,\frac{d^2\,e\,g}{\left(\,c\,+\,d\,\,x\,\right)^{\,2}}\,+\,\frac{d^2\,e\,g}{c\,+\,d\,\,x}\,+\,\frac{d\,e\,h}{c\,+\,d\,\,x}\,-\,\frac{d^2\,e\,g}{c\,+\,d\,\,x}\,\Bigg)\,\Bigg]\,+\,\frac{d^2\,e\,g}{\left(\,c\,+\,d\,\,x\,\right)^{\,2}}\,+\,\frac{d^2\,e\,g}{\left(\,c\,+\,d\,\,x\,\right)^{\,2}}\,+\,\frac{d^2\,e\,g}{c\,+\,d\,\,x}\,+\,\frac{d^2\,e\,g}{c\,+$$

$$\frac{1}{\left(b\;c-a\;d\right)^3}a\;b^2\;B\;c\;d\;f\;g\;\left(\left[\begin{smallmatrix} i\;c\;\sqrt{1-\frac{-d\;e+c\;f}{f\;\left(c+d\;x\right)}} & \sqrt{1-\frac{-d\;g+c\;h}{h\;\left(c+d\;x\right)}} & EllipticPi\left[\begin{smallmatrix} -\frac{-d\;g+c\;h}{h\;\left(c+d\;x\right)} \end{smallmatrix}\right]\right)$$

$$\frac{\left(\text{bc-ad}\right)\text{ h}}{\text{b}\left(-\text{dg+ch}\right)}\text{, i ArcSinh}\Big[\frac{\sqrt{-\frac{-\text{dg+ch}}{\text{h}}}}{\sqrt{\text{c+dx}}}\Big]\text{, }\frac{\left(-\text{de+cf}\right)\text{ h}}{\text{f}\left(-\text{dg+ch}\right)}\Big] \right/$$

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

$$\frac{d\,f\,g}{c\,+\,d\,x}\,+\,\frac{d\,e\,h}{c\,+\,d\,x}\,-\,\frac{2\,c\,f\,h}{c\,+\,d\,x}\Bigg)\Bigg]\,-\,\left[\dot{\mathbb{1}}\,\,a\,d\,\sqrt{\,1\,-\,\frac{-\,d\,e\,+\,c\,f}{f\,\left(\,c\,+\,d\,x\,\right)}}\,\,\sqrt{\,1\,-\,\frac{-\,d\,g\,+\,c\,h}{h\,\left(\,c\,+\,d\,x\,\right)}}\right]$$

$$\begin{split} & \text{EllipticPi} \, \big[\, \frac{ \left(\, b \, \, c \, - \, a \, \, d \, \right) \, \, h}{ b \, \left(\, - \, d \, \, g \, + \, c \, \, h \, \right)} \, , \, \, \dot{\mathbb{I}} \, \, \, \text{ArcSinh} \, \big[\, \frac{ \sqrt{ \, - \, \frac{- \, d \, \, g + \, c \, \, h}{h}}}{ \sqrt{ \, c \, + \, d \, \, x}} \, \big] \, , \, \, \, \frac{ \left(\, - \, d \, \, e \, + \, c \, \, f \, \right) \, \, h}{ \, f \, \left(\, - \, d \, \, g \, + \, c \, \, h \, \right)} \, \bigg] \, \bigg/ \end{split}$$

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

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

$$2\,A\,b^2\,d\,f\,g\,\left(\left[\begin{smallmatrix} i&c&\sqrt{1-\frac{-\,d\,e+c\,f}{f\,\left(\,c+d\,x\right)}}&\sqrt{1-\frac{-\,d\,g+c\,h}{h\,\left(\,c+d\,x\right)}}&\text{EllipticPi}\,\big[\,\frac{\left(\,b\,c-a\,d\right)\,h}{b\,\left(\,-\,d\,g+c\,h\right)}\right],$$

$$\text{i ArcSinh}\Big[\,\frac{\sqrt{-\,\frac{-d\,g+c\,h}{h}}}{\sqrt{c+d\,x}}\,\Big]\,\text{, }\,\frac{\Big(-\,d\,\,e\,+\,c\,\,f\Big)\,\,h}{f\,\,\Big(-\,d\,\,g\,+\,c\,\,h\Big)}\,\Big]\,\Bigg/\,\left(\sqrt{-\,\frac{-\,d\,g+c\,\,h}{h}}\,\,\sqrt{\,\left(f\,h\,+\,h\right)^2\,\left(-\,\frac{-\,d\,g+c\,\,h}{h}\,\right)}\,\sqrt{\,\left(f\,h\,+\,h\right)^2\,\left(-\,\frac{-\,d\,g+c\,\,h}{h}\,\right)^2\,\left(-\,\frac{-\,d\,g+c\,\,h}{h}\,\right)}\,\right)$$

$$\left(b\sqrt{-\frac{-dg+ch}{h}} \sqrt{\left(fh + \frac{d^2eg}{(c+dx)^2} - \frac{c\,d\,fg}{(c+dx)^2} - \frac{c\,d\,e\,h}{(c+dx)^2}} + \frac{c^2fh}{(c+dx)^2} + \frac{d\,fg}{(c+dx)} + \frac{d\,e\,h}{c+dx} + \frac{2\,c\,f\,h}{c+dx}\right)\right) + \frac{1}{(b\,c-a\,d)^3}$$

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

$$a\,b^2\,B\,c\,d\,e\,h\, \left(\left[i\,c\,\sqrt{1 - \frac{-d\,e+c\,f}{f\,(c+d\,x)}} \sqrt{1 - \frac{-d\,g+c\,h}{h\,(c+d\,x)}} \right]\right) / \left(\sqrt{-\frac{-d\,g+c\,h}{h}} \sqrt{\left(fh + \frac{d\,e\,h}{h\,(c+d\,x)} - \frac{2\,c\,f\,h}{c+d\,x}} \right) - \frac{d^2e\,g}{(c+d\,x)^2} - \frac{c\,d\,f\,g}{(c+d\,x)^2} + \frac{c^2\,f\,h}{(c+d\,x)^2} + \frac{d\,f\,g}{c+d\,x} + \frac{d\,e\,h}{c+d\,x} - \frac{2\,c\,f\,h}{c+d\,x} \right) - \frac{1}{a\,d\,\sqrt{1 - \frac{-d\,e+c\,f}{f\,(c+d\,x)}}} \sqrt{1 - \frac{-d\,g+c\,h}{h\,(c+d\,x)}} \, EllipticPi\left[\frac{(b\,c-a\,d)\,h}{b\,(-d\,g+c\,h)}\right] - \frac{d^2e\,g}{(c+d\,x)^2} - \frac{c\,d\,f\,g}{(c+d\,x)^2} - \frac{c\,d\,e\,h}{(c+d\,x)^2} + \frac{c^2\,f\,h}{(c+d\,x)^2} + \frac{d\,f\,g}{c+d\,x} + \frac{d\,e\,h}{c+d\,x} - \frac{2\,c\,f\,h}{c+d\,x} \right) + \frac{d^2e\,g}{(c+d\,x)^2} - \frac{c\,d\,f\,g}{(c+d\,x)^2} - \frac{c\,d\,e\,h}{(c+d\,x)^2} + \frac{c^2\,f\,h}{(c+d\,x)^2} + \frac{d\,f\,g}{c+d\,x} + \frac{d\,e\,h}{c+d\,x} - \frac{2\,c\,f\,h}{c+d\,x} \right) + \frac{d^2e\,g}{(c+d\,x)^2} - \frac{c\,d\,e\,h}{(c+d\,x)^2} + \frac{c^2\,f\,h}{(c+d\,x)^2} + \frac{d\,f\,g}{c+d\,x} + \frac{d\,e\,h}{c+d\,x} - \frac{2\,c\,f\,h}{c+d\,x} + \frac{d^2e\,g}{c+d\,x} + \frac{d\,e\,h}{c+d\,x} - \frac{2\,c\,f\,h}{c+d\,x} \right) + \frac{d^2e\,g}{(c+d\,x)^2} - \frac{c\,d\,e\,h}{(c+d\,x)^2} + \frac{c^2\,f\,h}{(c+d\,x)^2} + \frac{d\,f\,g}{c+d\,x} + \frac{d\,e\,h}{c+d\,x} - \frac{2\,c\,f\,h}{c+d\,x} + \frac{d\,e\,h}{c+d\,x} + \frac{d\,e\,h}{c$$

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

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

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

$$\frac{1}{\left(b\;c-a\;d\right)^3}a\;b^2\;B\;c^2\;f\;h\;\left(\begin{array}{c} \\ \\ \\ \\ \end{array}\right)i\;c\;\sqrt{1-\frac{-d\;e+c\;f}{f\;\left(c+d\;x\right)}}\;\;\sqrt{1-\frac{-d\;g+c\;h}{h\;\left(c+d\;x\right)}}\;\;EllipticPi\left[\begin{array}{c} \\ \\ \end{array}\right]$$

$$\frac{\left(\text{bc-ad}\right)\text{ h}}{\text{b}\left(-\text{dg+ch}\right)}\text{, i ArcSinh}\Big[\frac{\sqrt{-\frac{-\text{dg+ch}}{\text{h}}}}{\sqrt{\text{c+dx}}}\Big]\text{, }\frac{\left(-\text{de+cf}\right)\text{ h}}{\text{f}\left(-\text{dg+ch}\right)}\Big]$$

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

$$\frac{\text{d}\,f\,g}{c + \text{d}\,x} + \frac{\text{d}\,e\,h}{c + \text{d}\,x} - \frac{2\,c\,f\,h}{c + \text{d}\,x} \Bigg) \Bigg] - \left[\text{i}\,\,\text{a}\,\text{d}\,\sqrt{1 - \frac{-\text{d}\,e + c\,f}{f\,\left(c + \text{d}\,x\right)}}} \,\,\sqrt{1 - \frac{-\text{d}\,g + c\,h}{h\,\left(c + \text{d}\,x\right)}} \right] = \left[\text{i}\,\,\text{a}\,\text{d}\,\sqrt{1 - \frac{-\text{d}\,e + c\,f}{f\,\left(c + \text{d}\,x\right)}}} \right] = \left[\text{i}\,\,\text{a}\,\text{d}\,\sqrt{1 - \frac{-\text{d}\,e + c\,f}{f\,\left(c + \text{d}\,x\right)}}} \right] = \left[\text{i}\,\,\text{a}\,\text{d}\,\sqrt{1 - \frac{-\text{d}\,e + c\,f}{f\,\left(c + \text{d}\,x\right)}}} \right] = \left[\text{i}\,\,\text{a}\,\text{d}\,\sqrt{1 - \frac{-\text{d}\,e + c\,f}{f\,\left(c + \text{d}\,x\right)}}} \right] = \left[\text{i}\,\,\text{a}\,\text{d}\,\sqrt{1 - \frac{-\text{d}\,e + c\,f}{f\,\left(c + \text{d}\,x\right)}}} \right] = \left[\text{i}\,\,\text{a}\,\text{d}\,\sqrt{1 - \frac{-\text{d}\,e + c\,f}{f\,\left(c + \text{d}\,x\right)}}} \right] = \left[\text{i}\,\,\text{a}\,\text{d}\,\sqrt{1 - \frac{-\text{d}\,e + c\,f}{f\,\left(c + \text{d}\,x\right)}}} \right] = \left[\text{i}\,\,\text{a}\,\text{d}\,\sqrt{1 - \frac{-\text{d}\,e + c\,f}{f\,\left(c + \text{d}\,x\right)}}} \right] = \left[\text{i}\,\,\text{a}\,\text{d}\,\sqrt{1 - \frac{-\text{d}\,e + c\,f}{f\,\left(c + \text{d}\,x\right)}}} \right] = \left[\text{i}\,\,\text{d}\,\left(c + \text{d}\,x\right) \right] = \left[\text{i}\,\,\text{d}\,\left(c + \text{d$$

$$\text{EllipticPi}\Big[\frac{\left(\text{bc-ad}\right)\,\text{h}}{\text{b}\,\left(-\,\text{dg+ch}\right)}\text{, i}\,\,\text{ArcSinh}\Big[\frac{\sqrt{-\,\frac{-\text{dg+ch}}{\text{h}}}}{\sqrt{\,\text{c+d}\,\text{x}}}\Big]\text{, }\frac{\left(-\,\text{de+cf}\right)\,\text{h}}{\text{f}\,\left(-\,\text{dg+ch}\right)}\Big] \right] \ / \\$$

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

$$\frac{c^2 f h}{\left(c+dx\right)^2} + \frac{d f g}{c+dx} + \frac{d e h}{c+dx} - \frac{2 c f h}{c+dx} \right) \Bigg] - \frac{1}{\left(b \, c-a \, d\right)^2}$$

$$2A \, b^2 \, c \, f h \left[\left[i \, c \, \sqrt{1 - \frac{-d \, e+c \, f}{f \, \left(c+dx\right)}} \, \sqrt{1 - \frac{-d \, g+c \, h}{h \, \left(c+dx\right)}} \, EllipticPi \left[\frac{\left(b \, c-a \, d\right) \, h}{b \, \left(-d \, g+c \, h\right)} \right] \right]$$

$$i \, ArcSinh \left[\frac{\sqrt{-\frac{-d \, g+c \, h}{h \, \left(c+dx\right)}}}{\sqrt{c+dx}} \right], \, \frac{\left(-d \, e+c \, f\right) \, h}{\left(-d \, g+c \, h\right)} \Bigg] \Bigg/ \left[\sqrt{-\frac{-d \, g+c \, h}{h \, \left(c+dx\right)^2}} \, \sqrt{\left(f \, h+c \, dx\right)^2} \right]$$

$$\frac{d^2 \, e \, g}{\left(c+dx\right)^2} - \frac{c \, d \, g}{\left(c+dx\right)^2} - \frac{c \, d \, e+c \, f}{\left(c+dx\right)^2} + \frac{c^2 \, f \, h}{\left(c+dx\right)^2} + \frac{d \, f \, g}{c+dx} + \frac{d \, e\, h}{c+dx} - \frac{2 \, c \, f \, h}{c+dx} \Bigg] -$$

$$\frac{i \, ArcSinh \left[\frac{\sqrt{-\frac{-d \, g+c \, h}{h \, \left(c+dx\right)}}}{\sqrt{c+dx}} \right], \, \frac{\left(-d \, e+c \, f\right) \, h}{\left(-d \, g+c \, h\right)} \Bigg] \Bigg/ \left[b \, \sqrt{-\frac{-d \, g+c \, h}{h \, \left(c+dx\right)^2}} + \frac{d \, f \, g}{c+dx} + \frac{d \, e\, h}{c+dx} - \frac{2 \, c \, f \, h}{c+dx} \right] \Bigg)$$

$$\frac{1}{\left(b \, c-a \, d\right)^2} 2 \, a \, b \, B \, c \, f \, h \, \left[i \, c \, \sqrt{1 - \frac{-d \, e+c \, f}{f \, \left(c+dx\right)^2}} + \frac{c^2 \, f \, h}{\left(c+dx\right)^2} + \frac{d \, f \, g}{c+dx} + \frac{d \, e\, h}{c+dx} - \frac{2 \, c \, f \, h}{c+dx} \right] \Bigg) \Bigg\}$$

$$\frac{1}{\left(b \, c-a \, d\right)^2} 2 \, a \, b \, B \, c \, f \, h \, \left[i \, c \, \sqrt{1 - \frac{-d \, e+c \, f}{f \, \left(c+dx\right)^2}} + \frac{1 - \frac{-d \, g+c \, h}{c+dx}}{\left(c+dx\right)^2} + \frac{1 - \frac{d \, g+c \, h}{c+dx}}{c+dx} + \frac{1 - \frac{d \, g+c \, h}{c+dx}}{c+dx} \right] \Bigg] \Bigg]$$

$$\left(\sqrt{-\frac{-dg+ch}{h}} \ \sqrt{\left(fh + \frac{d^2eg}{(c+dx)^2} - \frac{c\,dfg}{(c+dx)^2} - \frac{c\,deh}{(c+dx)^2} + \frac{c^2fh}{(c+dx)^2} + \frac{deh}{(c+dx)^2} + \frac{deh}{(c+dx)^2} \right)} \right) - \left(i\,a\,d\,\sqrt{1 - \frac{-dg+cf}{f(c+dx)}} \ \sqrt{1 - \frac{-dg+ch}{h(c+dx)}} \right) \right) - \left(i\,a\,d\,\sqrt{1 - \frac{-dg+ch}{f(c+dx)}} \ \sqrt{1 - \frac{-dg+ch}{h(c+dx)}} \right) \right)$$

$$EllipticPi \left[\frac{(b\,c-ad)\,h}{b\,(-dg+ch)} , \, i\,ArcSinh \left[\frac{\sqrt{-\frac{-dg+ch}{f(c+dx)}}} \right] , \, \frac{(-de+cf)\,h}{f\,(-dg+ch)} \right] \right) /$$

$$\left(b\,\sqrt{-\frac{-dg+ch}{h}} \ \sqrt{\left(fh + \frac{d^2eg}{(c+dx)^2} - \frac{c\,dfg}{(c+dx)^2} - \frac{c\,deh}{(c+dx)^2} + \frac{dfg}{(c+dx)^2} + \frac{dfg}{c+dx} + \frac{deh}{c+dx} - \frac{2\,cfh}{h\,(c+dx)} \right) \right) - \frac{1}{(b\,c-ad)^2}$$

$$2\,a\,Ab\,d\,f\,h \left(\left[i\,c\,\sqrt{1 - \frac{-de+cf}{f\,(c+dx)}} \ \sqrt{1 - \frac{-dg+ch}{h\,(c+dx)}} \ EllipticPi \left[\frac{(b\,c-ad)\,h}{b\,(-dg+ch)} , \right] \right)$$

$$i\,ArcSinh \left[\frac{\sqrt{-\frac{-dg+ch}{h}}}{\sqrt{c+dx}} \right] , \, \frac{(-de+cf)\,h}{f\,(-dg+ch)} \right] / \left(\sqrt{-\frac{-dg+ch}{h}} \ \sqrt{\left(fh + \frac{deh}{c+dx} - \frac{2\,cfh}{c+dx} + \frac{deh}{c+dx} - \frac{2\,cfh}{c+dx} \right) \right)$$

$$i\,Arc\,Sinh \left[\frac{d^2eg}{(c+dx)^2} - \frac{c\,deh}{(c+dx)^2} + \frac{c^2fh}{(c+dx)^2} + \frac{dfg}{c+dx} + \frac{deh}{c+dx} - \frac{2\,cfh}{c+dx} \right) \right]$$

$$i\,Arc\,Sinh \left[\frac{d^2eg}{(c+dx)^2} - \frac{c\,deh}{(c+dx)^2} + \frac{c^2fh}{(c+dx)^2} + \frac{dfg}{c+dx} + \frac{deh}{c+dx} - \frac{2\,cfh}{c+dx} \right) \right]$$

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

$$\frac{d^2\,e\,g}{\left(\,c\,+\,d\,x\,\right)^{\,2}}\,-\,\frac{c\,d\,f\,g}{\left(\,c\,+\,d\,x\,\right)^{\,2}}\,-\,\frac{c\,d\,e\,h}{\left(\,c\,+\,d\,x\,\right)^{\,2}}\,+\,\frac{c^2\,f\,h}{\left(\,c\,+\,d\,x\,\right)^{\,2}}\,+\,\frac{d\,f\,g}{c\,+\,d\,x}\,+\,\frac{d\,e\,h}{c\,+\,d\,x}\,-\,\frac{2\,c\,f\,h}{c\,+\,d\,x}\,\right)\,\Bigg]\,\,+\,\frac{d\,e\,h}{\left(\,c\,+\,d\,x\,\right)^{\,2}}\,+\,\frac{d\,e\,h}{\left(\,c\,+\,d\,x\,\right)^{\,2}}\,+\,\frac{d\,e\,h}{c\,+\,d\,x}\,-\,\frac$$

$$\frac{1}{b\,c-a\,d}A\,b\,f\,h\,\left(\left[\dot{\mathbb{L}}\,c\,\sqrt{1-\frac{-\,d\,e+c\,f}{f\,\left(c+d\,x\right)}}\,\,\sqrt{1-\frac{-\,d\,g+c\,h}{h\,\left(c+d\,x\right)}}\,\,\,\text{EllipticPi}\left[\,\frac{\left(b\,c-a\,d\right)\,h}{b\,\left(-\,d\,g+c\,h\right)}\,,\right.\right.\right.$$

$$\mathbb{1} \, \text{ArcSinh} \, \Big[\, \frac{\sqrt{-\frac{-d \, g + c \, h}{h}}}{\sqrt{c + d \, x}} \Big] \, \text{,} \, \, \frac{\left(-\, d \, e + c \, f\right) \, h}{f \, \left(-\, d \, g + c \, h\right)} \, \Big] \, \Bigg/ \, \left(\sqrt{-\frac{-d \, g + c \, h}{h}} \, \sqrt{\left(f \, h + c \, h\right) \, f \, \left(-\, d \, g + c \, h\right)} \right) \, \Big| \, \sqrt{\left(f \, h + c \, h\right) \, f \, \left(-\, d \, g + c \, h\right)} \, \Big] \, \Big| \, \sqrt{\left(f \, h + c \, h\right) \, f \, \left(-\, d \, g + c \, h\right)} \, \Big] \, \Big| \, \sqrt{\left(f \, h + c \, h\right) \, f \, \left(-\, d \, g + c \, h\right)} \, \Big| \, \sqrt{\left(f \, h + c \, h\right) \, f \, \left(-\, d \, g + c \, h\right)} \, \Big| \, \sqrt{\left(f \, h + c \, h\right) \, f \, \left(-\, d \, g + c \, h\right)} \, \Big| \, \sqrt{\left(f \, h + c \, h\right) \, f \, \left(-\, d \, g + c \, h\right)} \, \Big| \, \sqrt{\left(f \, h + c \, h\right) \, f \, \left(-\, d \, g + c \, h\right)} \, \Big| \, \sqrt{\left(f \, h + c \, h\right) \, f \, \left(-\, d \, g + c \, h\right)} \, \Big| \, \sqrt{\left(f \, h + c \, h\right) \, f \, \left(-\, d \, g + c \, h\right)} \, \Big| \, \sqrt{\left(f \, h + c \, h\right) \, f \, \left(-\, d \, g + c \, h\right)} \, \Big| \, \sqrt{\left(f \, h + c \, h\right) \, f \, \left(-\, d \, g + c \, h\right)} \, \Big| \, \sqrt{\left(f \, h + c \, h\right) \, f \, \left(-\, d \, g + c \, h\right)} \, \Big|} \, \Big| \, \sqrt{\left(f \, h + c \, h\right) \, f \, \left(-\, d \, g + c \, h\right)} \, \Big|} \, \Big| \, \sqrt{\left(f \, h + c \, h\right) \, f \, \left(-\, d \, g + c \, h\right)} \, \Big|} \, \Big| \, \sqrt{\left(f \, h + c \, h\right) \, f \, \left(-\, d \, g + c \, h\right)} \, \Big|} \, \Big| \, \sqrt{\left(f \, h + c \, h\right) \, f \, \left(-\, d \, g + c \, h\right)} \, \Big|} \, \Big| \, \sqrt{\left(f \, h + c \, h\right)} \, \Big|} \, \Big| \, \sqrt{\left(f \, h + c \, h\right)} \, \Big|} \, \Big| \, \sqrt{\left(f \, h + c \, h\right)} \, \Big|} \, \Big| \, \sqrt{\left(f \, h + c \, h\right)} \, \Big|} \, \Big| \, \sqrt{\left(f \, h + c \, h\right)} \, \Big|} \, \Big| \, \sqrt{\left(f \, h + c \, h\right)} \, \Big|} \, \Big|$$

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

$$\text{$\dot{\mathtt{L}}$ ArcSinh} \Big[\frac{\sqrt{-\frac{-d\,g+c\,h}{h}}}{\sqrt{c+d\,x}} \Big] \text{, } \frac{\left(-\,d\,e+c\,f\right)\,h}{f\,\left(-\,d\,g+c\,h\right)} \Big] \Bigg] / \left(b\,\sqrt{-\frac{-\,d\,g+c\,h}{h}}\,\,\sqrt{\left(f\,h+c\,h\right)^2 + \left(-\,d\,g+c\,h\right)^2} \right) = 0$$

$$\frac{d^2\,e\,g}{\left(\,c\,+\,d\,x\,\right)^{\,2}}\,-\,\frac{c\,d\,f\,g}{\left(\,c\,+\,d\,x\,\right)^{\,2}}\,-\,\frac{c\,d\,e\,h}{\left(\,c\,+\,d\,x\,\right)^{\,2}}\,+\,\frac{c^2\,f\,h}{\left(\,c\,+\,d\,x\,\right)^{\,2}}\,+\,\frac{d\,f\,g}{c\,+\,d\,x}\,+\,\frac{d\,e\,h}{c\,+\,d\,x}\,-\,\frac{2\,c\,f\,h}{c\,+\,d\,x}\,\right)\,\Bigg]\,\,-\,\frac{d^2\,e\,g}{\left(\,c\,+\,d\,x\,\right)^{\,2}}\,+\,\frac{d\,g\,h}{\left(\,c\,+\,d\,x\,\right)^{\,2}}\,+\,\frac{d\,g\,h}{c\,+\,d\,x}\,+\,\frac{d\,g\,h}{c\,+\,d\,x}\,-\,\frac{d\,e\,h}{c\,+\,d\,x}\,-$$

$$\frac{1}{b\,c-a\,d}a\,B\,f\,h\,\left(\left[\dot{a}\,c\,\sqrt{1-\frac{-\,d\,e+c\,f}{f\,\left(c+d\,x\right)}}\,\,\sqrt{1-\frac{-\,d\,g+c\,h}{h\,\left(c+d\,x\right)}}\,\,\text{EllipticPi}\left[\,\frac{\left(b\,c-a\,d\right)\,h}{b\,\left(-\,d\,g+c\,h\right)}\,,\right.\right.\right)$$

$$\begin{split} i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-dg_{1}ch}{h}}}{\sqrt{c+dx}}\Big],\,\,\frac{\left(-d\,e\,+\,c\,f\right)\,h}{f\left(-d\,g\,+\,c\,h\right)}\Bigg] \Bigg/ \left(\sqrt{-\frac{-d\,g\,+\,c\,h}{h}}\,\,\sqrt{\left[f\,h\,+\,\frac{d^{2}\,e\,g}{\left(c\,+\,d\,x\right)^{2}}\,-\,\frac{c\,d\,e\,h}{\left(c\,+\,d\,x\right)^{2}}\,+\,\frac{c^{2}\,f\,h}{\left(c\,+\,d\,x\right)^{2}}\,+\,\frac{d\,f\,g}{c\,+\,d\,x}\,+\,\frac{d\,e\,h}{c\,+\,d\,x}\,-\,\frac{2\,c\,f\,h}{c\,+\,d\,x}\right)\Bigg] - \\ \left[i\,a\,d\,\sqrt{1\,-\,\frac{-d\,e\,+\,c\,f}{f\left(c\,+\,d\,x\right)}}\,\,\sqrt{1\,-\,\frac{-d\,g\,+\,c\,h}{h}\,\left(c\,+\,d\,x\right)}}\,\,\text{EllipticPi}\Big[\,\frac{\left(b\,c\,-\,a\,d\right)\,h}{b\left(-d\,g\,+\,c\,h\right)}\,,\,\,i\,\text{ArcSinh}\Big[\,\\ \frac{\sqrt{-\,d\,g\,+\,c\,h}}{\sqrt{c\,+\,d\,x}}\,\Big],\,\,\frac{\left(-d\,e\,+\,c\,f\right)\,h}{f\left(-d\,g\,+\,c\,h\right)}\Bigg]\Bigg/\,\left[b\,\sqrt{-\,\frac{-d\,g\,+\,c\,h}{h}}\,\,\sqrt{\left\{f\,h\,+\,\frac{d^{2}\,e\,g}{\left(c\,+\,d\,x\right)^{2}}\,-\,\frac{c\,d\,e\,h}{\left(c\,+\,d\,x\right)^{2}}\,+\,\frac{d\,f\,g}{\left(c\,+\,d\,x\right)^{2}}\,+\,\frac{d\,e\,h}{c\,+\,d\,x}\,-\,\frac{2\,c\,f\,h}{c\,+\,d\,x}\Bigg)\right]\Bigg)\Bigg]\Bigg/} \\ \left(\left(A\,b\,f\,h\,-\,a\,B\,f\,h\,+\,\frac{A\,b\,d^{2}\,e\,g}{\left(c\,+\,d\,x\right)^{2}}\,-\,\frac{a\,B\,d^{2}\,e\,g}{\left(c\,+\,d\,x\right)^{2}}\,-\,\frac{A\,b\,c\,d\,f\,g}{\left(c\,+\,d\,x\right)^{2}}\,+\,\frac{a\,B\,c\,d\,f\,g}{\left(c\,+\,d\,x\right)^{2}}\,-\,\frac{A\,b\,c\,d\,e\,h}{\left(c\,+\,d\,x\right)^{2}}\,+\,\frac{a\,B\,c\,d\,f\,g}{\left(c\,+\,d\,x\right)^{2}}\,-\,\frac{A\,b\,c\,d\,e\,h}{\left(c\,+\,d\,x\right)^{2}}\,+\,\frac{a\,B\,c\,d\,f\,g}{\left(c\,+\,d\,x\right)^{2}}\,-\,\frac{a\,B\,c\,f\,f\,g}{\left(c\,+\,d\,x\right)^{2}}\,-\,\frac{a\,B\,c\,f\,f\,g}{\left(c\,+\,d\,x\right)^{2}}\,-\,\frac{a\,B\,c\,f\,f\,g}{\left(c\,+\,d\,x\right)^{2}}\,-\,\frac{a\,B\,c\,f\,f\,g}{\left(c\,+\,d\,x\right)^{2}}\,-\,\frac{a\,B\,c\,f\,f\,g}{\left(c\,+\,d\,x\right)^{2}}\,-\,\frac{a\,B\,c\,f\,f\,g}{\left(c\,+\,d\,x\right)^{2}}\,-\,\frac{a\,B\,c\,f\,f\,g}{\left(c\,+\,d\,x\right)^{2}}\,-\,\frac{a\,B\,c\,f\,f\,g}{\left(c\,+\,d\,x\right)^{2}}\,-\,\frac{a\,B\,c\,f\,f\,g}{\left(c\,+\,d\,x\right)^{2}}\,-\,\frac{a\,B\,c\,f\,f\,g}{\left(c\,+\,d\,x$$

Problem 6: Result more than twice size of optimal antiderivative.

$$\int \frac{\left(\mathsf{a} + \mathsf{b} \; \mathsf{x}\right)^{3/2} \; \left(\mathsf{A} + \mathsf{B} \; \mathsf{x}\right)}{\sqrt{\mathsf{c} + \mathsf{d} \; \mathsf{x} \; \sqrt{\mathsf{e} + \mathsf{f} \; \mathsf{x} \; \sqrt{\mathsf{g} + \mathsf{h} \; \mathsf{x}}}} \; \mathrm{d} \mathsf{x}$$

Optimal (type 4, 981 leaves, 10 steps):

$$\frac{1}{4\,df^2\,h^2\,\sqrt{c_+d_X}} \left(5\,a\,B\,df\,h_+\,b\,\left(4\,A\,df\,h_-\,3\,B\,\left(df\,g_+\,de\,h_+\,c\,f\,h\right) \right) \right)\,\sqrt{a_+\,b_X}\,\,\sqrt{e_+\,f_X}\,\,\sqrt{g_+\,h_X}\,\,+ \\ \frac{b\,B\,\sqrt{a_+\,b_X}\,\,\sqrt{c_+\,d_X}\,\,\sqrt{e_+\,f_X}\,\,\sqrt{g_+\,h_X}}{2\,df\,h} \\ \sqrt{d\,g_-\,c\,h}\,\,\sqrt{f\,g_-\,e\,h}\,\,\left(5\,a\,B\,df\,h_+\,b\,\left(4\,A\,df\,h_-\,3\,B\,\left(df\,g_+\,de\,h_+\,c\,f\,h\right) \right) \right)\,\sqrt{a_+\,b_X}} \\ \sqrt{-\frac{\left(de_-\,c\,f\right)\,\left(g_+\,h_X\right)}{\left(f\,g_-\,e\,h\right)\,\left(c_+\,d_X\right)}}\,\,EllipticE\big[ArcSin\big[\frac{\sqrt{d\,g_-\,c\,h}\,\,\sqrt{e_+\,f_X}}{\sqrt{f\,g_-\,e\,h}\,\,\sqrt{c_+\,d_X}}\big],\,\,\frac{\left(b\,c_-\,a\,d\right)\,\left(f\,g_-\,e\,h\right)}{\left(b\,e_-\,a\,f\right)\,\left(d\,g_-\,c\,h\right)} \bigg] \bigg/ \\ \left\{ d^2\,f^2\,h^2\,\sqrt{\frac{\left(de_-\,c\,f\right)\,\left(a_+\,b\,x\right)}{\left(b\,e_-\,a\,f\right)\,\left(c_+\,d\,x\right)}}\,\,\sqrt{g_+\,h_X}} \right. \\ \sqrt{g_+\,h_X}\,\,EllipticF\big[ArcSin\big[\frac{\sqrt{b\,g_-\,a\,h}\,\,\sqrt{e_+\,f_X}}{\sqrt{f\,g_-\,e\,h}\,\,\sqrt{a_+\,b_X}}\big],\,\,-\frac{\left(b\,c_-\,a\,d\right)\,\left(f\,g_-\,e\,h\right)}{\left(d\,e_-\,c\,f\right)\,\left(b\,g_-\,a\,h\right)} \bigg] \bigg/ \\ \sqrt{g_+\,h_X}\,\,EllipticF\big[ArcSin\big[\frac{\sqrt{b\,g_-\,a\,h}\,\,\sqrt{e_+\,f_X}}{\sqrt{f\,g_-\,e\,h}\,\,\sqrt{a_+\,b_X}}\big],\,\,-\frac{\left(b\,c_-\,a\,d\right)\,\left(f\,g_-\,e\,h\right)}{\left(d\,e_-\,c\,f\right)\,\left(b\,g_-\,a\,h\right)} \bigg] \bigg/ \\ \sqrt{g_+\,h_X}\,\,EllipticF\big[ArcSin\big[\frac{\sqrt{b\,g_-\,a\,h}\,\,\sqrt{e_+\,f_X}}{\sqrt{f\,g_-\,e\,h}\,\,\sqrt{a_+\,b_X}}\big],\,\,-\frac{\left(b\,c_-\,a\,d\right)\,\left(f\,g_-\,e\,h\right)}{\left(d\,e_-\,c\,f\right)\,\left(b\,g_-\,a\,h\right)} \bigg] \bigg/ \\ \sqrt{g_+\,h_X}\,\,EllipticF\big[ArcSin\big[\frac{\sqrt{b\,g_-\,a\,h}\,\,\sqrt{e_+\,f_X}}{\sqrt{f\,g_-\,e\,h}\,\,\sqrt{a_+\,b_X}}\big]} \bigg) \bigg/ \bigg(\frac{g_-\,a\,h}{\left(g_-\,c\,h\right)\,\,\left(g_-\,a\,h\right)\,\left(g_-\,e\,h\right)} \bigg(\frac{g_-\,a\,h}{\left(g_-\,e\,h\right)\,\,\left(g_-\,a\,h\right)\,\left(g_-\,e\,h\right)} \bigg(\frac{g_-\,a\,h}{\left(g_-\,e\,h\right)\,\,\left(g_-\,a\,h\right)\,\,\left(g_-\,e\,h\right)} \bigg(\frac{g_-\,a\,h}{\left(g_-\,e\,h\right)\,\,\left(g_-\,e\,h\right)} \bigg(\frac{g_-\,a\,h}{\left(g_-\,e\,h\right)\,\,\left(g_-\,e\,h\right)} \bigg(\frac{g_-\,a\,h}{\left(g_-\,e\,h\right)\,\,\left(g_-\,e\,h\right)} \bigg(\frac{g_-\,a\,h}{\left(g_-\,e\,h\right)\,\,\left(g_-\,e\,h\right)} \bigg(\frac{g_-\,a\,h}{\left(g_-\,a\,h\right)} \bigg(\frac{g_-\,a\,h}{\left(g_-\,a\,h\right)} \bigg(\frac{g_-\,a\,h}{\left(g_-\,a\,h\right)} \bigg(\frac{g_-\,a\,h}{\left(g_-\,a\,h\right)} \bigg(\frac{g_-\,a\,$$

Result (type 4, 21555 leaves): Display of huge result suppressed!

Problem 7: Result more than twice size of optimal antiderivative.

$$\int \frac{\sqrt{a+b\,x}\ (A+B\,x)}{\sqrt{c+d\,x}\ \sqrt{e+f\,x}\ \sqrt{g+h\,x}}\, \mathrm{d}x$$

Optimal (type 4, 736 leaves, 7 steps):

$$\begin{split} &\frac{B\sqrt{a+bx}\ \sqrt{e+fx}\ \sqrt{g+hx}}{fh\sqrt{c+dx}} - \left[B\sqrt{dg-ch}\ \sqrt{fg-eh}\ \sqrt{a+bx}\ \sqrt{-\frac{\left(de-cf\right)\left(g+hx\right)}{\left(fg-eh\right)\left(c+dx\right)}}\right] \\ &- \left[B\sqrt{dg-ch}\ \sqrt{-g-eh}\ \sqrt{-g+hx}\right], \ \frac{\left(bc-ad\right)\left(fg-eh\right)}{\left(be-af\right)\left(dg-ch\right)} \right] \bigg/ \\ &- \left[B\left(be-af\right)\left(dg-ch\right)\right] \bigg/ \\ &- \left[B\left(be-af\right)\left(dg-ch\right)\right] \bigg/ \\ &- \left[B\left(be-af\right)\sqrt{bg-ah}\ \sqrt{\frac{\left(be-af\right)\left(c+dx\right)}{\left(de-cf\right)\left(a+bx\right)}}\right] \\ &- \left[B\left(be-af\right)\sqrt{bg-ah}\ \sqrt{\frac{\left(be-af\right)\left(c+dx\right)}{\left(de-cf\right)\left(a+bx\right)}}\right] \\ &- \left[ArcSin\left[\frac{\sqrt{bg-ah}\ \sqrt{e+fx}}{\sqrt{fg-eh}\ \sqrt{a+bx}}\right], -\frac{\left(bc-ad\right)\left(fg-eh\right)}{\left(de-cf\right)\left(bg-ah\right)}\right] \bigg/ \\ &- \left[Bfh\sqrt{fg-eh}\ \sqrt{c+dx}\ \sqrt{-\frac{\left(be-af\right)\left(g+hx\right)}{\left(fg-eh\right)\left(a+bx\right)}}\right] \\ &- \left[ArcSin\left[\frac{\sqrt{bg-ah}\ \sqrt{c+dx}}{\left(dg-ch\right)\left(a+bx\right)}\right] \\ &- \left[ArcSin\left[\frac{\sqrt{bc-ad}\ \sqrt{g+hx}}{\left(dg-ch\right)\left(a+bx\right)}\right] \\ &- \left[ArcSin\left[\frac{\sqrt{bc-ad}\ \sqrt{g+hx}}{\sqrt{-dg+ch}\ \sqrt{a+bx}}\right], \\ &- \left[ArcSin\left[\frac{\sqrt{bc-ad}\ \sqrt{g+hx}}{\sqrt{-dg+ch}\ \sqrt{a+bx}}\right]\right] \\ &- \left[ArcSin\left[\frac{\sqrt{bc-ad}\ \sqrt{g+ch}\ \sqrt{a+bx}}{\sqrt{-dg+ch}\ \sqrt{a+bx}}\right]\right] \\ &- \left[ArcSin\left[\frac{\sqrt{bc-ad}\ \sqrt{g+ch}\ \sqrt{a+bx}}{\sqrt{-dg+ch}\ \sqrt{a+bx}}\right]\right] \\ &- \left(ArcSin\left[\frac{\sqrt{bc-ad}\ \sqrt{g+bx}}{\sqrt{-dg+ch}\ \sqrt{a+bx}}\right]\right] \\ &- \left(ArcSin\left[\frac{\sqrt{bc-ad}\ \sqrt{g+bx}}{\sqrt{-dg+ch}\ \sqrt{a+bx}}\right]\right] \\ &- \left(ArcSin\left[\frac{\sqrt{bc-ad}\ \sqrt{g+bx}}{\sqrt{dg-ch}\ \sqrt{dg+ch}\ \sqrt{dg-ch}}\right]\right] \\ &- \left(ArcSin\left[\frac{\sqrt{bc-ad}\ \sqrt{g+bx}}{\sqrt{dg-ch}\ \sqrt{dg-ch}}\right]\right] \\ &- \left(ArcSin\left[\frac{\sqrt{bc-ad}\ \sqrt{g+bx}}{\sqrt{dg-ch}\ \sqrt{dg-ch}}\right]\right] \\ &- \left(ArcSin\left[\frac{\sqrt{bc-ad}\ \sqrt{g+bx}}{\sqrt{g+bx}}\right]\right] \\ &- \left(ArcSin\left[\frac{\sqrt{bc-ad}\ \sqrt{g$$

Result (type 4, 6648 leaves):

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

$$\left(2\,f\,h\,\sqrt{e+\frac{\left(c+d\,x\right)\,\left(f-\frac{c\,f}{c+d\,x}\right)}{d}}\,\sqrt{g+\frac{\left(c+d\,x\right)\,\left(h-\frac{c\,h}{c+d\,x}\right)}{d}}\,\right)\right)+$$

$$\left(d\,\left(b\,g-a\,h\right)\,\left(d\,g-c\,h\right)\,\left(B\,f\,g+B\,e\,h-2\,A\,f\,h\right)\,\sqrt{c+d\,x}}\right.$$

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

$$\sqrt{a + \frac{\left(c + dx\right)\left(b - \frac{bc}{c + dx}\right)}{d}} \left[\left[de\sqrt{-\frac{\left(bc - ad\right)\left(-dg + ch\right)\left(-\frac{b}{bc + ad} + \frac{1}{c + dx}\right)}} - bdg + adh} \right] \right]$$

$$- \frac{f}{-de + cf} + \frac{1}{c + dx} \sqrt{\frac{-\frac{h}{-dg + ch} + \frac{1}{c + dx}}{-\frac{de + cf}{-dg + ch} + \frac{1}{c + dx}}}} \left[\left(-bdg + adh\right) EllipticE[ArcSin[\sqrt{\frac{\left(de - cf\right)\left(h + \frac{dg}{c + dx} - \frac{ch}{c + dx}\right)}{d\left(-fg + eh\right)}}\right],$$

$$- \frac{\left(bc - ad\right)\left(-fg + eh\right)}{\left(-de + cf\right)\left(-bg + ah\right)} \right] / \left(\left(bc - ad\right)\left(-dg + ch\right)\right) - \frac{1}{bc - ad}b \, EllipticF[ArcSin[\sqrt{\frac{\left(de - cf\right)\left(h + \frac{dg}{c + dx} - \frac{ch}{c + dx}\right)}{d\left(-fg + eh\right)}}\right],$$

$$- \frac{\left(bc - ad\right)\left(-fg + eh\right)}{d\left(-fg + eh\right)} \right] / \left(b + \frac{bc + ad}{c + dx}\right) \left[f + \frac{de - cf}{c + dx}\right] \left[h + \frac{dg - ch}{c + dx}\right] - \frac{\left(bc - ad\right)\left(-dg + ch\right)}{-bdg + adh}$$

$$- \frac{f}{-de + cf} + \frac{1}{c + dx}\right) \sqrt{\frac{-\frac{h}{-dg + ch} + \frac{1}{c + dx}}{-\frac{dg - ch}{c + dx}}}}$$

$$- \left(\left(-bdg + adh\right) \, EllipticE[ArcSin[\sqrt{\frac{\left(de - cf\right)\left(h + \frac{dg}{c + dx} - \frac{ch}{c + dx}\right)}{d\left(-fg + eh\right)}}\right],$$

$$- \frac{\left(bc - ad\right)\left(-fg + eh\right)}{\left(-de + cf\right)\left(-bg + ah\right)} \right] / \left(\left(bc - ad\right)\left(-dg + ch\right)\right) - \frac{1}{bc - ad}b \, EllipticF[ArcSin[\sqrt{\frac{\left(de - cf\right)\left(h + \frac{dg}{c + dx} - \frac{ch}{c + dx}\right)}}{d\left(-fg + eh\right)}}\right] /$$

$$- ArcSin[\sqrt{\frac{\left(de - cf\right)\left(h + \frac{dg}{c + dx} - \frac{ch}{c + dx}\right)}{d\left(-fg + eh\right)}}\right] / \sqrt{\left(-de + cf\right)\left(-bg + ah\right)} \right] / \sqrt{\left(-de + cf\right)\left(-bg + ah\right)}$$

$$\left(\sqrt{\frac{-\frac{f}{-de+cf} + \frac{1}{c+dx}}{\frac{f}{-de+cf} + \frac{h}{-dg+ch}}} \sqrt{\left(b + \frac{-b\,c + a\,d}{c+dx}\right) \left(f + \frac{d\,e - c\,f}{c+dx}\right) \left(h + \frac{d\,g - c\,h}{c+dx}\right)} \right) + \\ \left(\sqrt{\frac{-\frac{b}{-b\,c + a} + \frac{1}{c+dx}}{\frac{b}{-b\,c + a} + \frac{h}{-dg+ch}}} \sqrt{\frac{-\frac{f}{-de+cf} + \frac{1}{c+dx}}{\frac{f}{-de+cf} + \frac{h}{-dg+ch}}} \left(-\frac{h}{-d\,g + c\,h} + \frac{1}{c+dx} \right) \right) + \\ \left(\sqrt{\frac{-\frac{b}{-b\,c + a} + \frac{1}{c+dx}}{\frac{f}{-dg+ch} + \frac{h}{-dg+ch}}} \sqrt{\frac{\left(-d\,e + c\,f\right) \left(-h - \frac{d\,g}{-c+dx} + \frac{c\,h}{c+dx}\right)}{d \left(-f\,g + e\,h\right)}} \right] \right) \right)$$

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

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

$$\sqrt{\frac{f}{-c+dx} + \frac{a\,d}{c+d\,x}} \sqrt{\frac{f}{-c+dx}} + \frac{a\,d}{c+d\,x} \sqrt{\frac{f}{-c+dx}}{\frac{f}{-c+dx}}} \left(f + \frac{d\,g}{-c+d\,x} - \frac{c\,h}{c+d\,x} \right) \right)$$

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

$$\sqrt{\frac{f}{-dg+c\,f} + \frac{a\,d}{c+d\,x}} \sqrt{\frac{f}{-c+d\,x} - \frac{c\,f}{-c+d\,x}}{\frac{f}{-dg+c\,h}} \frac{h}{-c+d\,x}} - \frac{c\,h}{c+d\,x}} \right)$$

$$\sqrt{\frac{f}{-dg+c\,f} + \frac{1}{c-d\,x}}} \sqrt{\frac{-\frac{h}{-dg+c\,f} + \frac{1}{c-d\,x}}{\frac{f}{-dg+c\,f}} - \frac{h}{-dg+c\,f}}}{\frac{f}{-dg+c\,f}} - \frac{h}{-dg+c\,f}}}$$

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

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

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

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

$$- b\, d\, g + a\, d\, h$$

$$\left(-\frac{f}{-d\, e + c\, f} + \frac{1}{c\, + d\, x} \right) \, \sqrt{\frac{-\frac{h}{-d\, g + c\, h} + \frac{1}{c\, d\, a}}{-d\, e + c\, f} - \frac{h}{-d\, e + c\, f}}} \, \right) / \left(\left(b\, c - a\, d \right) \, \left(-d\, g + c\, h \right) \right) - \frac{1}{b\, c - a\, d\, h} \, b \, EllipticF \left[ArcSin \left[\sqrt{\frac{\left(d\, e - c\, f \right) \, \left(h + \frac{d\, g}{c\, d\, x} - \frac{c\, h}{c\, d\, x} \right)}{d \, \left(-f\, g + e\, h \right)}} \, \right) ,$$

$$\frac{\left(b\, c - a\, d \right) \, \left(-f\, g + e\, h \right)}{\left(-d\, e + c\, f \right) \, \left(-b\, g + a\, h \right)} \, \right) / \left(\left(b\, c - a\, d \right) \, \left(-d\, g + c\, h \right) - \frac{1}{b\, c - a\, d} \, b \, EllipticF \left[ArcSin \left[\sqrt{\frac{\left(d\, e - c\, f \right) \, \left(h + \frac{d\, g}{c\, d\, x} - \frac{c\, h}{c\, d\, x} \right)}} \, \right] ,$$

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

$$\begin{split} & \text{EllipticF} \big[\text{ArcSin} \Big[\sqrt{\frac{-d \, e + c \, f \, \Big) \, \Big(-h \, -\frac{d \, g}{c + d \, x} + \frac{c \, h}{c + d \, x} \Big)}{d \, \Big(-f \, g + e \, h \Big)}} \, \Big], \, \frac{\left(b \, c - a \, d \right) \, \Big(-f \, g + e \, h \Big)}{\left(-d \, e + c \, f \, \right) \, \left(-b \, g + a \, h \right)} \, \Big] \bigg/}{d \, \Big(-f \, g + e \, h \, \Big)} \, \sqrt{\left(b \, -\frac{b \, c}{c + d \, x} + \frac{a \, d}{c + d \, x} \right) \, \sqrt{\left(h \, + \frac{d \, g \, - c \, h}{c + d \, x} \right)}} \, \Big] \bigg/} \\ & \left(2 \, f^2 \, h \, \Big(f \, g - e \, h \Big) \, \left(b \, -\frac{b \, c}{c + d \, x} + \frac{a \, d}{c + d \, x} \right) \, \sqrt{e + \frac{\left(c + d \, x \right) \, \left(f \, -\frac{c \, f}{c + d \, x} \right)}{d}} \, \right)} \right) \bigg/} \\ & \sqrt{g + \frac{\left(c + d \, x \right) \, \left(h \, -\frac{c \, h}{c + d \, x} \right)}{d}} \, \sqrt{e + \frac{\left(c + d \, x \right) \, \left(f \, -\frac{c \, f}{c + d \, x} \right)}{d}} \, \sqrt{g + \frac{\left(c + d \, x \right) \, \left(h \, -\frac{c \, f}{c + d \, x} \right)}{d}}}{d} \\ & \left(b \, B \, d \, f \, g \, + b \, B \, d \, e \, h \, b \, B \, c \, f \, h \, -2 \, A \, b \, d \, f \, h \, -a \, B \, d \, f \, h \right)} \right. \\ & \sqrt{c \, \cdot d \, x} \, \sqrt{\left(\left(b \, -\frac{b \, c}{c + d \, x} + \frac{a \, d}{c + d \, x} \right) \, \left(f \, + \frac{d \, e}{c + d \, x} - \frac{c \, f}{c + d \, x} \right) \, \left(h \, + \frac{d \, g}{c + d \, x} - \frac{c \, h}{c + d \, x} \right) \right)} \right)} \\ & \sqrt{a + \frac{\left(c \, + d \, x \right) \, \left(b \, -\frac{b \, c}{c + d \, x} \right) \, \left(f \, + \frac{d \, e}{c + d \, x} - \frac{c \, f}{c + d \, x} \right) \, \left(h \, + \frac{d \, g}{c + d \, x} - \frac{c \, h}{c + d \, x} \right) \right)}}{d \, d \, -\frac{\left(b \, c \, -a \, d \right) \, \left(-d \, g \, + c \, h \right) \, \left(-\frac{b \, c}{b \, c + d \, x} \right) \, \left(\frac{f}{d \, e \, c \, f} + \frac{c \, d \, x}{c + d \, x} \right)}}{d \, d \, -\frac{c \, h}{c \, d \, x} \, \left(\frac{c \, d \, x}{c \, d \, x} - \frac{c \, h}{c \, c \, d \, x} \right) \, \left(\frac{d \, e \, c \, f \, f}{c \, d \, x} - \frac{c \, h}{c \, c \, d \, x} \right) \, \right)}{d \, \left(-d \, g \, + c \, h \right)} \, \left(-\frac{d \, g \, c \, h}{c \, c \, d \, x} - \frac{c \, h}{c \, d \, a \, d \, h} \right)} \, \left[\left(-b \, d \, g \, + a \, d \, h \right) \, EllipticE \left[A \, c \, d \, x \right] \, \left(-\frac{d \, g \, c \, f \, h}{c \, d \, g \, c \, d \, h} \right) \, \right] \, \left(\left(b \, c \, -a \, d \, h \right) \, \left(-\frac{d \, g \, c \, h}{c \, c \, d \, x} - \frac{c \, h}{c \, d \, a \, x} \right) \, \right] \, \right] \, \left(\left(b \, c \, -a \, d \, h \right) \, \left(-\frac{d \, g \, c \, f \, h}{c \, c \, d \, a \, d \, h} \right) \, \left(-\frac{d \, g \, c \, f \, h}{c \, c \, d \, a \, d \, h} \right) \, \left(-\frac$$

$$\begin{split} & \text{ArcSin} \Big[\sqrt{\frac{\left(de-cf\right)\left(h + \frac{dg}{c_{c}dx} - \frac{ch}{c_{c}dx}\right)}{d\left(-fg + eh\right)}} \, \Big] \, , \, \frac{\left(b\,c - a\,d\right)\left(-f\,g + eh\right)}{\left(-d\,e + c\,f\right)\left(-b\,g + a\,h\right)} \Big] \Big] \Big) \Big/ \\ & \left(\sqrt{\frac{-\frac{f}{-\frac{f}{de+cf}} + \frac{1}{c_{c}dx}}{-\frac{f}{-\frac{h}{de+cf}}}} \, \sqrt{\left(b + \frac{-b\,c + a\,d}{c + d\,x}\right)\left(f + \frac{de-c\,f}{c_{c}dx}\right)\left(h + \frac{dg-c\,h}{c_{c}dx}\right)} \, - \\ & \left(c\,d\,f\,g\,\sqrt{-\frac{\left(b\,c - a\,d\right)\left(-d\,g + c\,h\right)\left(-\frac{b}{-\frac{b}{b\,c - ad}} + \frac{1}{c_{c}dx}\right)}{-b\,d\,g + a\,d\,h}} \, \right) - \\ & \left(\left(-b\,d\,g + a\,d\,h\right)\,\text{EllipticE} \big[\text{ArcSin} \big[\sqrt{\frac{\left(d\,e - c\,f\right)\left(h + \frac{dg}{c_{c}dx} - \frac{c\,h}{c_{c}dx}\right)}{d\left(-f\,g + e\,h\right)}} \, \right] \Big/ \\ & \left(\left(b\,c - a\,d\right)\left(-f\,g + e\,h\right)\right) - \frac{1}{b\,c - a\,d}\,b\,\text{EllipticF} \big[\\ & \text{ArcSin} \big[\sqrt{\frac{\left(d\,e - c\,f\right)\left(h + \frac{dg}{c_{c}dx} - \frac{c\,h}{c_{c}dx}\right)}{d\left(-f\,g + e\,h\right)}} \, \right] \Big/ \\ & \left(\sqrt{-\frac{f}{-\frac{d}{c}e+c\,f} + \frac{1}{c_{c}dx}}} \, \sqrt{\left(b + \frac{-b\,c + a\,d}{c_{c}dx}\right)\left(f + \frac{de-c\,f}{c_{c}dx}\right)\left(h + \frac{dg-c\,h}{c_{c}dx}\right)}} \, \right] \Big/ \\ & \left(c\,d\,e\,h\,\sqrt{-\frac{\left(b\,c - a\,d\right)\left(-d\,g + c\,h\right)\left(-\frac{b}{b\,c - a\,d} + \frac{1}{c_{c}dx}\right)}} \, - \\ & \left(c\,d\,e\,h\,\sqrt{-\frac{f}{-\frac{d}e+c\,f} + \frac{1}{c_{c}dx}}} \, \sqrt{\frac{\left(b\,c - a\,d\right)\left(-f\,g + e\,h\right)}{c_{c}\,d\,c}\left(-\frac{b}{c_{c}\,d\,x} + \frac{1}{c_{c}\,d\,x}}\right)}} \, - \\ & \left((-b\,d\,g + a\,d\,h\right)\,\text{EllipticE} \big[\text{ArcSin} \big[\sqrt{\frac{\left(d\,e - c\,f\right)\left(h + \frac{dg}{c_{c}\,c} - \frac{c\,h}{c_{c}\,d\,x}\right)}{d\,c_{c}\,d\,c} \cdot \frac{c\,h}{c_{c}\,d\,c}}} \, \right] \, , \\ & \left((-b\,d\,g + a\,d\,h\right)\,\text{EllipticE} \big[\text{ArcSin} \big[\sqrt{\frac{\left(d\,e - c\,f\right)\left(h + \frac{dg}{c_{c}\,c} - \frac{c\,h}{c_{c}\,d\,x}\right)}} \, \right] \, , \\ & \left((-b\,d\,g + a\,d\,h\right)\,\text{EllipticE} \big[\text{ArcSin} \big[\sqrt{\frac{\left(d\,e - c\,f\right)\left(h + \frac{dg}{c_{c}\,c} - \frac{c\,h}{c_{c}\,d\,x}\right)}} \, \right] \, , \\ & \left((-b\,d\,g + a\,d\,h\right)\,\text{EllipticE} \big[\text{ArcSin} \big[\sqrt{\frac{\left(d\,e - c\,f\right)\left(h + \frac{dg}{c_{c}\,c} - \frac{c\,h}{c_{c}\,d\,x}\right)}} \, \right] \, , \\ & \left((-b\,d\,g + a\,d\,h\right)\,\text{EllipticE} \big[\text{ArcSin} \big[\sqrt{\frac{\left(d\,e - c\,f\right)\left(h + \frac{dg}{c_{c}\,c} - \frac{c\,h}{c_{c}\,d\,x}\right)}} \, \right] \, , \\ & \left((-b\,d\,g + a\,d\,h\right)\,\text{EllipticE} \big[\text{ArcSin} \big[\sqrt{\frac{\left(d\,e - c\,f\right)\left(h + \frac{dg}{c_{c}\,c} - \frac{c\,h}{c_{c}\,d\,x}\right)}} \, \right] \, , \\ & \left((-b\,d\,g + a\,d\,h\right)\,\text{EllipticE} \big[\text{ArcSin} \big[\sqrt{\frac{\left(d\,e - c\,f\right)\left(h + \frac{dg}{c_{c}\,d\,x} - \frac{c\,h}{c_{c}\,d\,x}}\right)}} \, \right] \, , \\ & \left((-b\,d\,g + a\,d\,h$$

$$\left| \sqrt{\frac{-\frac{h}{-de+cf} + \frac{1}{c-dx}}{\frac{f}{-de+cf}}} \sqrt{\left(b + \frac{-b\,c + a\,d}{c + d\,x}\right) \left(f + \frac{d\,e - c\,f}{c + d\,x}\right) \left(h + \frac{d\,g - c\,h}{c + d\,x}\right)} \right. + \\ \left| d\,e\,h\,\sqrt{\frac{-\frac{h}{-b\,c - ad} + \frac{1}{c-dx}}{-\frac{h}{-b\,c - ad} + \frac{h}{-dg+ch}}} \sqrt{\frac{-\frac{f}{-de+cf} + \frac{1}{c-dx}}{-\frac{f}{-de+cf} + \frac{h}{-dg+ch}}}{d\left(-f\,g + e\,h\right)}} \left(-\frac{h}{-d\,g + c\,h} + \frac{1}{c+d\,x}\right)} \right| + \\ EllipticF\left[ArcSin\left[\sqrt{\frac{\left(-d\,e + c\,f\right) \left(-h - \frac{-d\,g}{-c+c} + \frac{-c\,h}{-c+dx}\right)}{d\left(-f\,g + e\,h\right)}}\right], \frac{\left(b\,c - a\,d\right) \left(-f\,g + e\,h\right)}{\left(-d\,e + c\,f\right) \left(-b\,g + a\,h\right)}\right] \right| / \\ \left[\sqrt{\frac{-\frac{h}{-dg+ch} + \frac{1}{c+dx}}{-\frac{dg-ch}{-dg+ch}}} \sqrt{\left(b + \frac{-b\,c + a\,d}{c+d\,x}\right) \left(f + \frac{d\,e - c\,f}{c+d\,x}\right) \left(h + \frac{d\,g - c\,h}{c+d\,x}\right)}{-\frac{f}{-d\,g + c\,f}} - \frac{1}{-d\,g + c\,h}} \right) \right] / \\ \left[2\,c\,f\,h\,\sqrt{\frac{-\frac{b}{-b\,c - a\,d} + \frac{1}{c+d\,x}}{-\frac{b}{-b\,c - a\,d}}} \sqrt{\frac{-\frac{f}{-d\,e + c\,f} + \frac{1}{c+d\,x}}{-\frac{f}{-d\,e + c\,f} + \frac{h}{-d\,g + c\,h}}} \left(-\frac{h}{-d\,g + c\,h} + \frac{1}{c+d\,x}\right)} \right| - \\ \left[2\,c\,f\,h\,\sqrt{\frac{-\frac{b}{-b\,c - a\,d} + \frac{1}{c+d\,x}}{-\frac{f}{-d\,g + c\,h}}} \sqrt{\frac{-\frac{f}{-d\,e + c\,f} + \frac{1}{c+d\,x}}{-\frac{f}{-d\,e + c\,f} + \frac{h}{-d\,g + c\,h}}}} \left(-\frac{h}{-d\,g + c\,h} + \frac{1}{c+d\,x}\right)} \right| - \\ \left[2\,c\,f\,h\,\sqrt{\frac{-\frac{h}{-d\,g + c\,h} + \frac{1}{c+d\,x}}} \sqrt{\frac{-\frac{f}{-d\,e + c\,f} + \frac{1}{c+d\,x}}{-\frac{f}{-d\,e + c\,f} + \frac{h}{-d\,g + c\,h}}}} \sqrt{\frac{-\frac{f}{-d\,e + c\,f} + \frac{1}{c+d\,x}}{-\frac{f}{-d\,e + c\,f} + \frac{h}{c+d\,x}}}} \right| - \frac{h}{-d\,g + c\,h}} \right| - \\ \left[-\frac{h}{-d\,g + c\,f} + \frac{1}{-d\,g + c\,h}} \sqrt{\frac{-\frac{h}{-d\,g + c\,h} + \frac{1}{c+d\,x}}{-\frac{h}{-d\,g + c\,h}}} \right] - \\ \left[-\frac{f}{-d\,e + c\,f} + \frac{h}{-d\,g + c\,h}} \sqrt{\frac{-\frac{h}{-d\,g + c\,h} + \frac{1}{c+d\,x}}}{-\frac{h}{-d\,g + c\,h}}}} \right] - \\ \left[-\frac{-\frac{f}{-d\,e + c\,f} + \frac{1}{c+d\,x}} {\left(-\frac{f}{-d\,e + c\,f} + \frac{h}{-d\,g + c\,h}}} \right) - \frac{h}{-d\,g + c\,h}} \right] \right] / \\ \left[-\frac{f}{-d\,e + c\,f} + \frac{1}{-d\,g + c\,h}} - \frac{h}{-d\,g + c\,h}} \right] - \\ \left[-\frac{f}{-d\,e + c\,f} + \frac{h}{-d\,g + c\,h}} \right] - \frac{h}{-d\,g + c\,h}} \right] - \\ \left[-\frac{f}{-d\,e + c\,f} + \frac{h}{-d\,g + c\,h}} - \frac{h}{-d\,g + c\,h}} \right] - \\ \left[-\frac{f}{-d\,e + c\,f} + \frac{h}{-d\,g + c\,h}} - \frac{h}{-d\,g + c\,h}} \right] - \\ \left[-\frac{f}{-d\,e + c\,f} + \frac{h}{-d\,g + c\,h}} \right] - \frac{h}{-d\,g + c\,h}} - \frac{h}{-d\,g + c\,h}} \right] - \\ \left[-\frac{f}{-d\,e + c\,f} + \frac{h}{$$

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

Problem 9: Result more than twice size of optimal antiderivative.

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

Optimal (type 4, 606 leaves, 7 steps):

$$\frac{2 \left(\mathsf{A} \, \mathsf{b} - \mathsf{a} \, \mathsf{B} \right) \, \mathsf{d} \, \sqrt{\mathsf{a} + \mathsf{b} \, \mathsf{x}} \, \sqrt{\mathsf{e} + \mathsf{f} \, \mathsf{x}} \, \sqrt{\mathsf{g} + \mathsf{h} \, \mathsf{x}} }{ \left(\mathsf{b} \, \mathsf{c} - \mathsf{a} \, \mathsf{d} \right) \, \left(\mathsf{b} \, \mathsf{e} - \mathsf{a} \, \mathsf{f} \right) \, \left(\mathsf{b} \, \mathsf{g} - \mathsf{a} \, \mathsf{h} \right) \, \sqrt{\mathsf{c} + \mathsf{d} \, \mathsf{x}} } - \frac{2 \, \mathsf{b} \, \left(\mathsf{A} \, \mathsf{b} - \mathsf{a} \, \mathsf{B} \right) \, \sqrt{\mathsf{c} + \mathsf{d} \, \mathsf{x}} \, \sqrt{\mathsf{g} + \mathsf{h} \, \mathsf{x}} }{ \left(\mathsf{b} \, \mathsf{c} - \mathsf{a} \, \mathsf{d} \right) \, \left(\mathsf{b} \, \mathsf{e} - \mathsf{a} \, \mathsf{f} \right) \, \left(\mathsf{b} \, \mathsf{g} - \mathsf{a} \, \mathsf{h} \right) \, \sqrt{\mathsf{a} + \mathsf{b} \, \mathsf{x}} } - \frac{2 \, \mathsf{b} \, \left(\mathsf{A} \, \mathsf{b} - \mathsf{a} \, \mathsf{B} \right) \, \sqrt{\mathsf{c} + \mathsf{d} \, \mathsf{x}} \, \sqrt{\mathsf{g} + \mathsf{h} \, \mathsf{x}} }{ \left(\mathsf{b} \, \mathsf{c} - \mathsf{a} \, \mathsf{d} \right) \, \left(\mathsf{b} \, \mathsf{g} - \mathsf{a} \, \mathsf{h} \right) \, \sqrt{\mathsf{d} \, \mathsf{g} - \mathsf{c} \, \mathsf{h}} \, \sqrt{\mathsf{d} \, \mathsf{g} - \mathsf{e} \, \mathsf{h}} \, \sqrt{\mathsf{d} + \mathsf{d} \, \mathsf{x}} \right) } - \frac{\left(\mathsf{d} \, \mathsf{e} - \mathsf{c} \, \mathsf{f} \right) \, \left(\mathsf{g} + \mathsf{h} \, \mathsf{x} \right) }{ \left(\mathsf{f} \, \mathsf{g} - \mathsf{e} \, \mathsf{h} \right) \, \left(\mathsf{d} \, \mathsf{g} - \mathsf{c} \, \mathsf{h} \right) \, \sqrt{\mathsf{g} + \mathsf{h} \, \mathsf{x}} \right) } + \\ \left[\mathsf{d} \, \mathsf{c} - \mathsf{a} \, \mathsf{d} \right) \, \left(\mathsf{b} \, \mathsf{e} - \mathsf{a} \, \mathsf{f} \right) \, \left(\mathsf{c} + \mathsf{d} \, \mathsf{x} \right) \, \sqrt{\mathsf{g} + \mathsf{h} \, \mathsf{x}} \right) + \left(\mathsf{d} \, \mathsf{e} - \mathsf{a} \, \mathsf{f} \right) \, \left(\mathsf{d} \, \mathsf{e} - \mathsf{c} \, \mathsf{f} \right) \, \left(\mathsf{d} \, \mathsf{e} - \mathsf{c} \, \mathsf{f} \right) \, \left(\mathsf{d} \, \mathsf{e} - \mathsf{d} \, \mathsf{f} \right) \, \sqrt{\mathsf{g} + \mathsf{h} \, \mathsf{x}} \right) + \\ \left[\mathsf{d} \, \mathsf{e} - \mathsf{a} \, \mathsf{d} \right) \, \sqrt{\frac{\mathsf{g} + \mathsf{e} \, \mathsf{h} \, \sqrt{\mathsf{e} + \mathsf{f} \, \mathsf{x}} \, \left(\mathsf{d} \, \mathsf{e} - \mathsf{e} \, \mathsf{f} \right) \, \left(\mathsf{d} \, \mathsf{e} - \mathsf{e} \, \mathsf{f} \right) \, \left(\mathsf{d} \, \mathsf{e} - \mathsf{e} \, \mathsf{f} \right) \, \left(\mathsf{d} \, \mathsf{g} - \mathsf{e} \, \mathsf{h} \right) \, \left(\mathsf{d} \, \mathsf{g} - \mathsf{e} \, \mathsf{h} \right) \, \left(\mathsf{d} \, \mathsf{g} - \mathsf{e} \, \mathsf{h} \right) \, \left(\mathsf{d} \, \mathsf{g} - \mathsf{e} \, \mathsf{h} \right) \, \left(\mathsf{d} \, \mathsf{g} - \mathsf{e} \, \mathsf{h} \, \mathsf{h} \, \mathsf{g} \right) \right) \right] \right) \right] \right) \\ \left[\mathsf{d} \, \mathsf{e} \, \mathsf{d} \, \mathsf{d}$$

Result (type 4, 1749 leaves):

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

$$-\left[\left(2 \, \left(A \, b - a \, B\right) \, \left(a + b \, x\right)^{5/2} \left(d + \frac{b \, c}{a + b \, x} - \frac{a \, d}{a + b \, x}\right) \, \left(f + \frac{b \, e}{a + b \, x} - \frac{a \, f}{a + b \, x}\right) \, \left(h + \frac{b \, g}{a + b \, x} - \frac{a \, h}{a + b \, x}\right)\right)\right] / \left(\frac{a \, b \, d}{a + b \, x}\right) + \frac{1}{a + b \, x}$$

$$\frac{\left(-b\,c+a\,d\right)\,\left(-f\,g+e\,h\right)}{\left(-b\,e+a\,f\right)\,\left(-d\,g+c\,h\right)}\,\bigg]\,\Bigg/\,\left(\left(b\,c-a\,d\right)\,\left(b\,g-a\,h\right)\,\right)\,\Bigg-\,\frac{1}{-b\,c+a\,d}$$

$$d\,EllipticF\Big[ArcSin\Big[\sqrt{\,\frac{\left(b\,e-a\,f\right)\,\left(h+\frac{b\,g}{a+b\,x}-\frac{a\,h}{a+b\,x}\right)}{b\,\left(-f\,g+e\,h\right)}}\,\,\bigg]\,,\,\,\frac{\left(-b\,c+a\,d\right)\,\left(-f\,g+e\,h\right)}{\left(-b\,e+a\,f\right)\,\left(-b\,e+a\,f\right)\,\left(-d\,g+c\,h\right)}\,\bigg]\Bigg)\Bigg/$$

$$\left(\sqrt{\,\frac{-\frac{f}{-b\,e+a\,f}+\frac{1}{a+b\,x}}{-\frac{f}{-b\,e+a\,f}+\frac{h}{-b\,g+a\,h}}}\,\,\sqrt{\,\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\,\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)\,\left(h+\frac{b\,g-a\,h}{a+b\,x}\right)}\,-\frac{f}{-b\,g+a\,h}+\frac{1}{a+b\,x}}{b\,\left(-\frac{f}{-b\,e+a\,f}+\frac{h}{-b\,g+a\,h}}\,\left(-\frac{h}{-b\,g+a\,h}+\frac{1}{a+b\,x}\right)}\right) - \\ EllipticF\Big[ArcSin\Big[\sqrt{\,\frac{\left(-b\,e+a\,f\right)\,\left(-h-\frac{b\,g}{a+b\,x}+\frac{a\,h}{a+b\,x}\right)}{b\,\left(-f\,g+e\,h\right)}}\,\,\Big]\,,\,\,\frac{\left(-b\,c+a\,d\right)\,\left(-f\,g+e\,h\right)}{\left(-b\,e+a\,f\right)\,\left(-d\,g+c\,h\right)}\,\Big] \Bigg/$$

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

Problem 10: Result more than twice size of optimal antiderivative.

$$\int \frac{A+Bx}{\left(a+bx\right)^{5/2}\sqrt{c+dx}\sqrt{e+fx}\sqrt{g+hx}} \, dx$$

Optimal (type 4, 1081 leaves, 8 steps):

Result (type 4, 10637 leaves):

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

$$\frac{1}{3b^2 \left(-bc + ad\right)^2 \left(-be + af\right)^2 \left(-bg + ah\right)^2}{2} \left(-\frac{1}{2}bc + ad\right)^2 \left(-be + af\right)^2 \left(-bg + ah\right)^2}$$

$$2 \left[\left((3b^3 B ceg - 2Ab^3 deg - ab^2 B deg - 2Ab^3 cef - ab^2 B cef + 4aAb^2 deh - a^2 b B deh + 4aAb^2 cef - a^2 b B cef + 6a^2 Ab deh + 3a^3 B deh}{a^2 b B deh + 4aAb^2 cef - a^2 b B cef + 6a^2 Ab deh + 3a^3 B deh} \right) \left(a + bx \right)^{5/2} \left(d + \frac{bc}{a + bx} - \frac{ad}{a + bx} \right) \left(f + \frac{be}{a + bx} - \frac{af}{a + bx} \right) \left(h + \frac{bg}{a + bx} - \frac{ah}{a + bx} \right) \right) \right/$$

$$\sqrt{c + \frac{(a + bx) \left(d - \frac{ad}{a + bx} \right)}{b}} \sqrt{e + \frac{(a + bx) \left(f - \frac{af}{a + bx} \right)}{b}} \sqrt{g + \frac{(a + bx) \left(h - \frac{ah}{a + bx} \right)}{b}} \right) +$$

$$\sqrt{c + \frac{(a + bx) \left(d - \frac{ad}{a + bx} \right)}{b}} \sqrt{\left(\left(d + \frac{bc}{a + bx} - \frac{ad}{a + bx} \right) \left(f + \frac{be}{a + bx} - \frac{af}{a + bx} \right) \left(h + \frac{bg}{a + bx} - \frac{ah}{a + bx} \right) \right)} \right)$$

$$(bg - ah) (a + bx)^{3/2} \sqrt{\left(\left(d + \frac{bc}{a + bx} - \frac{ad}{a + bx} \right) \left(f + \frac{be}{a + bx} - \frac{af}{a + bx} \right) \left(h + \frac{bg}{a + bx} - \frac{ah}{a + bx} \right) \right)}$$

$$- \left(-\frac{f}{-be + af} + \frac{1}{a + bx} \right) \sqrt{\frac{-\frac{h}{bg + ah} + \frac{1}{a + bx}}{\frac{f}{-be + af} - \frac{h}{-bg + ah}}} \left(-\left[\left(b dg - b c h \right) E l l i p t i c E \right] \right)$$

$$- \left((bc - ad) \left(bg - ah \right) \right) - \frac{1}{-bc + ad} d E l l i p t i c F \left[Arc Sin \left[\sqrt{\frac{(be - af) \left(h + \frac{bg}{a + bx} - \frac{ah}{a + bx} \right)}{b \left(-fg + eh \right)}} \right] \right)$$

$$- \left(-\frac{bc + ad}{(-be + af) \left(-dg + ch \right)} \right] \right)$$

$$\left(\sqrt{\frac{-\frac{f}{-be+af} + \frac{a-bx}{a-bx}}{-\frac{f}{-be+af} + \frac{h}{-bg+ah}}} \sqrt{\left(d + \frac{bc-ad}{a+bx}\right) \left(f + \frac{be-af}{a+bx}\right) \left(h + \frac{bg-ah}{a+bx}\right)} \right) + \\ \left(2Ab^3 deg \sqrt{\frac{\left(bc-ad\right) \left(bg-ah\right) \left(-\frac{d}{-bc+ad} + \frac{1}{a-bx}\right)}{bdg-bch}} \left(-\frac{f}{-be+af} + \frac{1}{a+bx} \right) \\ \sqrt{\frac{-\frac{h}{-be+af} + \frac{1}{a-bx}}{-\frac{h}{-be+af}}} - \left(\left(bdg-bch\right) EllipticE \right) \\ \sqrt{\frac{\left(bc-ad\right) \left(bg-ah\right)}{b\left(-fg+eh\right)}} \right] , \frac{\left(-bc+ad\right) \left(-fg+eh\right)}{\left(-be+af\right) \left(-dg+ch\right)} \right] \right) \\ \sqrt{\frac{\left(bc-ad\right) \left(bg-ah\right)}{b\left(-fg+eh\right)}} \right] - \frac{1}{-bc+ad} dEllipticF \left[ArcSin \right] \\ \sqrt{\frac{\left(bc-af\right) \left(h + \frac{bg}{a-bx} - \frac{ah}{a-bx}\right)}{b\left(-fg+eh\right)}} \right] , \frac{\left(-bc+ad\right) \left(-fg+eh\right)}{\left(-be+af\right) \left(-dg+ch\right)} \right] \right) / \\ \sqrt{\frac{-\frac{f}{-be+af} + \frac{1}{a-bx}}{bg+ah}} \sqrt{\left(d + \frac{bc-ad}{a+bx}\right) \left(f + \frac{be-af}{a+bx}\right) \left(h + \frac{bg-ah}{a+bx}\right)} \\ \sqrt{\frac{dbc-ad}{bg-bch}} \sqrt{\frac{\left(bc-ad\right) \left(bg-ah\right) \left(-\frac{d}{-bc+ad} + \frac{1}{a-bx}\right)}{bdg-bch}} \left(-\frac{f}{-be+af} + \frac{1}{a+bx}\right) \\ \sqrt{\frac{-\frac{h}{-be+af} + \frac{1}{a-bx}}{bg-ah}} - \left(\left(bdg-bch\right) EllipticE \right) \\ \sqrt{\frac{-\frac{h}{-be+af} + \frac{1}{a-bx}}{bg-ah}} - \left(\left(bdg-bch\right) EllipticE \right) \\ \sqrt{\frac{-bc+ad}{-be+af} - \frac{h}{-bg-ah}}} - \left(\left(bdg-bch\right) EllipticE \right) \\ \sqrt{\frac{-bc+ad}{-be+af} - \frac{h}{-bg-ah}}} - \left(\left(bdg-bch\right) EllipticE \right) - \left(\left(bdg-ad\right) \left(bg-ah\right) \left(-fg+eh\right) - \left(-bc+ad\right) \left(-fg+eh\right) - \left(-bc+ad\right) \left(-bc+af\right) \left(-dg+ch\right) \right) \right) / \\ \sqrt{\frac{-bc+ad}{-bc+af} - \frac{h}{-bg-ah}}} - \left(\left(bdg-ad\right) \left(bg-ah\right) - \left(bdg-ab\right) \left(bdg-ah\right) \left(bdg-ah\right) - \left(bdg-ah\right) \left(bdg-ah\right) - \left(bdg-ah\right) \left(bdg-ah\right) - \left(bdg-ah\right) \left(bdg-ah\right) - \left(b$$

$$\sqrt{\frac{\left(be-af\right)\left(h+\frac{bg}{a_1bx}-\frac{ah}{a_2bx}\right)}{b\left(-fg+eh\right)}}} \right], \frac{\left(-bc+ad\right)\left(-fg+eh\right)}{\left(-be+af\right)\left(-dg+ch\right)} \right] \right) /$$

$$\sqrt{\frac{-\frac{f}{-be+af}+\frac{1}{a_2bx}}{-\frac{bg}{-be+af}+\frac{1}{-bg+ah}}} \sqrt{\left(d+\frac{bc-ad}{a+bx}\right)\left(f+\frac{be-af}{a+bx}\right)\left(h+\frac{bg-ah}{a+bx}\right)} +$$

$$\sqrt{\frac{-\frac{f}{-be+af}+\frac{1}{a-bx}}{bdg-bch}} - \frac{1}{bdg-bch} \sqrt{\left(bdg-ah\right)\left(-\frac{d}{-bc+ad}+\frac{1}{a-bx}\right)} - \frac{f}{-be+af} + \frac{1}{a+bx} \right) }$$

$$\sqrt{\frac{-\frac{h}{-be+af}+\frac{1}{a-bx}}{-\frac{h}{-be+af}-\frac{h}{-bg+ah}}} - \left(\left(bdg-bch\right) \text{EllipticE} \right[$$

$$\sqrt{\frac{\left(be-af\right)\left(h+\frac{bg}{a+bx}-\frac{ah}{a+bx}\right)}{b\left(-fg+eh\right)}} \right], \frac{\left(-bc+ad\right)\left(-fg+eh\right)}{\left(-be+af\right)\left(-dg+ch\right)} \right] /$$

$$\sqrt{\frac{\left(be-af\right)\left(h+\frac{bg}{a+bx}-\frac{ah}{a+bx}\right)}{b\left(-fg+eh\right)}} \right], \frac{\left(-bc+ad\right)\left(-fg+eh\right)}{\left(-be+af\right)\left(-dg+ch\right)} \right] /$$

$$\sqrt{\frac{-\frac{f}{-be+af}+\frac{1}{a+bx}}{b\left(-fg+eh\right)}} \sqrt{\left(d+\frac{bc-ad}{a+bx}\right)\left(f+\frac{be-af}{a+bx}\right)\left(h+\frac{bg-ah}{a+bx}\right)} +$$

$$\sqrt{\frac{-\frac{f}{-be+af}+\frac{1}{a-bx}}{bg+ah}} \sqrt{\frac{\left(bc-ad\right)\left(bg-ah\right)\left(-\frac{d}{-bc+ad}+\frac{1}{a-bx}\right)}{bdg-bch}} - \frac{f}{-be+af} + \frac{1}{a+bx}$$

$$\sqrt{\frac{-\frac{h}{-be+af}+\frac{1}{a-bx}}{bg+ah}} - \frac{\left(bdg-ah\right)\left(-\frac{d}{-bc+ad}+\frac{1}{a-bx}\right)}{bdg-bch}} - \frac{\left(-bc+ad\right)\left(-fg+eh\right)}{\left(-be+af\right)\left(-dg+ch\right)} \right] /$$

$$\sqrt{\frac{-bc+ad}{-be+af}-\frac{h}{-bg+ah}} - \left(\frac{\left(bdg-bch\right)\left(-\frac{d}{-bc+ab}+\frac{1}{a-bx}\right)}{b\left(-fg+eh\right)} \right] /$$

$$\sqrt{\frac{-bc+ad}{-be+af}-\frac{h}{-bg+ah}}} - \left(\frac{-bc+ad}{-bg+ah} - \frac{h}{-bg+ah}\right) - \left(\frac{-bc+ad}{-bg+ah} - \frac{-h}{-bg+ah}\right) - \left(\frac{-bc+ad}{-bg+ah} - \frac{-h}{-bg+ah}\right) - \left(\frac{-bc+ad}{-bg+ah} - \frac{-h}{-bg+ah}\right) - \left(\frac{-bc+ad}{-bg+ah} - \frac{-h}{-bg+ah}\right) - \left(\frac{-bc+ad}{-bg+ah}\right) - \left(\frac{-bc+ad}{-bg+ah}\right) - \left(\frac{-bc+ad}{-bg+ah} - \frac{-h}{-bg+ah}\right) - \left(\frac{-bc+ad}{-bg+ah} - \frac{-h}{-bg+ah}\right) - \left(\frac{-bc+ad}{-bg+ah}\right) - \left(\frac{-bc+ad}{-bg+ah}\right) - \left(\frac{-bc+ad}{-bg+ah}\right) - \left(\frac{-bc+ad}{-bg+ah} - \frac{-h}{-bg+ah}\right) - \left(\frac{-bc+ad}{-bg+ah}\right) - \left(\frac{-bc+ad}{-b$$

$$ArcSin\Big[\sqrt{\frac{\left(be-af\right)\left(h+\frac{bg}{a+bx}-\frac{ah}{a+bx}\right)}{b\left(-fg+eh\right)}}\Big], \frac{\left(-bc+ad\right)\left(-fg+eh\right)}{\left(-be+af\right)\left(-dg+ch\right)}\Big]\Big] / \\ \left(\left(bc-ad\right)\left(bg-ah\right)\right)\Bigg] - \frac{1}{-bc+ad}dEllipticF\Big[ArcSin\Big[\\ \sqrt{\frac{\left(be-af\right)\left(h+\frac{bg}{a+bx}-\frac{ah}{a+bx}\right)}{b\left(-fg+eh\right)}}\Big], \frac{\left(-bc+ad\right)\left(-fg+eh\right)}{\left(-be+af\right)\left(-dg+ch\right)}\Big]\Bigg] / \\ \left(\sqrt{\frac{-\frac{f}{-be+af}+\frac{1}{a+bx}}{-bg+ah}}\sqrt{\left(d+\frac{bc-ad}{a+bx}\right)\left(f+\frac{be-af}{a+bx}\right)\left(h+\frac{bg-ah}{a+bx}\right)}\right] + \\ 2Ab^3ceh\sqrt{\frac{\left(bc-ad\right)\left(bg-ah\right)\left(-\frac{d}{-bc+ad}+\frac{1}{a+bx}\right)}{bdg-bch}}\left(-\frac{f}{-be+af}+\frac{1}{a+bx}\right)} \\ \sqrt{\frac{-\frac{h}{-be+af}+\frac{1}{a-bx}}{-bg+ah}}\left(-\left(\left(bdg-bch\right)EllipticE\Big[\\ ArcSin\Big[\sqrt{\frac{\left(be-af\right)\left(h+\frac{bg}{a+bx}-\frac{ah}{a+bx}\right)}{b\left(-fg+eh\right)}}\right], \frac{\left(-bc+ad\right)\left(-fg+eh\right)}{\left(-be+af\right)\left(-dg+ch\right)}\right] / \\ \left(\left(bc-ad\right)\left(bg-ah\right)\right) - \frac{1}{-bc+ad}dEllipticF\Big[ArcSin\Big[\\ \sqrt{\frac{\left(be-af\right)\left(h+\frac{bg}{a+bx}-\frac{ah}{a+bx}\right)}{b\left(-fg+eh\right)}}\right], \frac{\left(-bc+ad\right)\left(-fg+eh\right)}{\left(-be+af\right)\left(-dg+ch\right)}\right] / \\ \left(\sqrt{\frac{-\frac{f}{-be+af}+\frac{1}{a+bx}}{-\frac{bg-ah}{a+bx}+\frac{bg-ah}{a+bx}}}\sqrt{\left(d+\frac{bc-ad}{a+bx}\right)\left(f+\frac{be-af}{a+bx}\right)\left(h+\frac{bg-ah}{a+bx}\right)} + \\ ab^2Bceh\sqrt{\frac{\left(bc-ad\right)\left(bg-ah\right)\left(-\frac{d}{-bc+ad}+\frac{1}{a+bx}\right)}} \left(-\frac{f}{-be+af}+\frac{1}{a+bx}\right)$$

$$\frac{-\frac{h}{b-b+ah} + \frac{1}{a-bx}}{-\frac{b}{b-b+ah}} \left(-\left[\left(b\, d\, g - b\, c\, h \right) \, EllipticE \right] \right) \\ = ArcSin \left[\sqrt{\frac{\left(b\, e - a\, f \right) \, \left(h + \frac{b\, g}{a+bx} - \frac{a\, h}{a+bx} \right)}{b \, \left(-f\, g + e\, h \right)}} \, \right], \frac{\left(-b\, c + a\, d \right) \, \left(-f\, g + e\, h \right)}{\left(-b\, e + a\, f \right) \, \left(-d\, g + c\, h \right)} \right] \right) \\ = \left(\left(b\, c - a\, d \right) \, \left(b\, g - a\, h \right) \right) - \frac{1}{-b\, c + a\, d} \, d\, EllipticF \left[ArcSin \left[\sqrt{\frac{\left(b\, e - a\, f \right) \, \left(h + \frac{b\, g}{a+bx} - \frac{a\, h}{a+bx} \right)}{b \, \left(-f\, g + e\, h \right)}} \, \right], \frac{\left(-b\, c + a\, d \right) \, \left(-f\, g + e\, h \right)}{\left(-b\, e + a\, f \right) \, \left(-d\, g + c\, h \right)} \right] \right) \right) \\ = \left(\sqrt{\frac{-\frac{f}{-b+a\, f} + \frac{1}{a+bx}}{-\frac{b\, g}{-b+a\, h}}} \, \sqrt{\left(d + \frac{b\, c - a\, d}{a+b\, x} \right) \left(f + \frac{b\, e - a\, f}{a+b\, x} \right) \, \left(h + \frac{b\, g - a\, h}{a+b\, x} \right)} \right) - \\ = \left(a\, A\, b^2\, d\, e\, h \, \sqrt{\frac{\left(b\, c - a\, d \right) \, \left(b\, g - a\, h \right) \, \left(-\frac{d}{-b+a\, f} + \frac{1}{a+b\, x} \right)}{b\, d\, g - b\, c\, h}} \, \left(-\frac{f}{-b\, e + a\, f} + \frac{1}{a+b\, x} \right) \right) \\ = \left(\sqrt{\frac{-\frac{h}{-b+a\, f} + \frac{1}{a-b\, x}}{-\frac{h}{-b+a\, f} - \frac{h}{-b\, g\, a\, h}}} \, \sqrt{\left(b\, d\, g - b\, c\, h \right) \, EllipticE} \left[\left(b\, d\, g - b\, c\, h \right) \, EllipticF \left[ArcSin \left[\sqrt{\frac{\left(b\, e - a\, f \right) \, \left(h + \frac{b\, g}{a+b\, x} - \frac{a\, h}{a+b\, x} \right)} \, \left(-\frac{f}{-b\, e + a\, f} \left(-d\, g + e\, h \right)}{\left(-b\, e + a\, f \right) \, \left(-d\, g + e\, h \right)} \right] \right) \right) \\ = \left(\sqrt{\frac{-\frac{f}{-b+a\, f} + \frac{1}{a-b\, x}}{b\, \left(-f\, g + e\, h \right)}} \, \sqrt{\left(d\, + \frac{b\, c - a\, d}{a+b\, x} \right) \, \left(f + \frac{b\, e - a\, f}{a+b\, x} \right) \, \left(h + \frac{b\, g - a\, h}{a+b\, x} \right)} \, + \left(\sqrt{\frac{-\frac{f}{-b+a\, f} + \frac{1}{a-b\, x}}{a+b\, x}}} \, \sqrt{\left(d\, + \frac{b\, c - a\, d}{a+b\, x} \right) \, \left(f + \frac{b\, e - a\, f}{a+b\, x} \right) \, \left(h + \frac{b\, g - a\, h}{a+b\, x} \right)} \, + \left(\sqrt{\frac{-\frac{f}{-b+a\, f} + \frac{1}{a-b\, x}}{a+b\, x}}} \, \sqrt{\left(d\, + \frac{b\, c - a\, d}{a+b\, x} \right) \, \left(f + \frac{b\, e - a\, f}{a+b\, x} \right) \, \left(h + \frac{b\, g - a\, h}{a+b\, x} \right)} \, + \left(\sqrt{\frac{-\frac{f}{-b+a\, f} + \frac{1}{a-b\, x}}{a+b\, x}}} \, \sqrt{\left(d\, + \frac{b\, c - a\, d}{a+b\, x} \right) \, \left(f + \frac{b\, e - a\, f}{a+b\, x} \right) \, \left(h + \frac{b\, g - a\, h}{a+b\, x} \right)} \, + \left(\sqrt{\frac{-\frac{f}{-b+a\, f} + \frac{1}{a-b\, x}}{a+b\, x}}} \, + \left(\sqrt{\frac{f}{-b+a\, f} + \frac{f}{-b+a\, f}} \right) \, + \left(\sqrt{\frac{f}{-b+a\, f} + \frac{f$$

$$\begin{cases} a^2 \, b \, B \, d \, e \, h \, \sqrt{\frac{\left(b \, c - a \, d\right) \, \left(b \, g - a \, h\right) \, \left(-\frac{d}{-b \, c + a \, d} + \frac{1}{a \cdot b \, x}\right)}{b \, d \, g - b \, c \, h}} \, \left(-\frac{f}{-b \, e + a \, f} + \frac{1}{a + b \, x}\right) \\ \sqrt{\frac{-\frac{h}{-b \, e + a \, f} + \frac{1}{a \cdot b \, x}}{\frac{h}{-b \, e + a \, f} - \frac{h}{-b \, g - a \, h}}} \, \left[-\left[\left(b \, d \, g - b \, c \, h\right) \, \text{EllipticE}\right[} \right] \\ Arc Sin \left[\sqrt{\frac{\left(b \, e - a \, f\right) \, \left(h + \frac{b \, g}{a \cdot b \, x} - \frac{a \, h}{a \cdot b \, x}\right)}{b \, \left(-f \, g + e \, h\right)}} \, \right], \, \frac{\left(-b \, c + a \, d\right) \, \left(-f \, g + e \, h\right)}{\left(-b \, e + a \, f\right) \, \left(-d \, g + c \, h\right)}} \right] \right] / \\ \left(\left(b \, c - a \, d\right) \, \left(b \, g - a \, h\right)\right) - \frac{1}{-b \, c + a \, d} \, d \, \text{EllipticF} \left[Arc Sin \left[\sqrt{\frac{\left(b \, e - a \, f\right) \, \left(h + \frac{b \, g}{a \cdot b \, x} - \frac{a \, h}{a \cdot b \, x}\right)}{b \, \left(-f \, g + e \, h\right)}} \right] \right) / \\ \left(\sqrt{\frac{-\frac{f}{-b \, e + a \, f} + \frac{1}{a \cdot b \, x}}{-b \, e + a \, f}} \, \sqrt{\left(d + \frac{b \, c - a \, d}{a + b \, x}\right) \left(f + \frac{b \, e - a \, f}{a + b \, x}\right) \left(h + \frac{b \, g - a \, h}{a + b \, x}\right)} - \frac{1}{a \cdot b \, c + a \, f}} \right) / \\ \left(a \, A \, b^2 \, c \, f \, h \, \sqrt{\frac{\left(b \, c - a \, d\right) \, \left(b \, g - a \, h\right) \left(-\frac{d}{a \, b \, x} + \frac{1}{a \cdot b \, x}\right)}{b \, d \, g - b \, c \, h}} \left(-\frac{f}{-b \, e + a \, f} + \frac{1}{a + b \, x}\right)} \right) / \\ \sqrt{\frac{-\frac{h}{-b \, e + a \, f} + \frac{1}{a \cdot b \, x}}{-\frac{h}{a \, b \, x}}} - \left(\left(b \, d \, g - b \, c \, h\right) \, EllipticE} \right) / \\ \sqrt{\frac{-\frac{h}{-b \, e + a \, f} + \frac{1}{a \cdot b \, x}}{-\frac{h}{a \, b \, x}}} - \left(-\frac{f}{-b \, e + a \, f} + \frac{1}{a \, b \, x}\right) / \left(\left(b \, d \, g - b \, c \, h\right) \, \left(\left(b \, d \, g - b \, c \, h\right) \, EllipticE} \right) / \left(-\frac{f}{-b \, e + a \, f} + \frac{1}{a \, b \, x}\right) / \left(-\frac{f}{-b \, e + a \, f} + \frac{1}{a \, b \, x}\right) / \left(-\frac{f}{-b \, e + a \, f} + \frac{1}{a \, b \, x}\right) / \left(-\frac{f}{-b \, e + a \, f} + \frac{1}{a \, b \, x}\right) / \left(-\frac{f}{-b \, e + a \, f} + \frac{1}{a \, b \, x}\right) / \left(-\frac{f}{-b \, e + a \, f} + \frac{1}{a \, b \, x}\right) / \left(-\frac{f}{-b \, e \, a \, f} + \frac{1}{a \, b \, x}\right) / \left(-\frac{f}{-b \, e \, a \, f} + \frac{1}{a \, b \, x}\right) / \left(-\frac{f}{-b \, e \, a \, f} + \frac{1}{a \, b \, x}\right) / \left(-\frac{f}{-b \, e \, a \, f} + \frac{1}{a \, b \, x}\right) / \left(-\frac{f}{-b \, e \, a \, f} + \frac{1}{a \, b \, x}\right) / \left(-\frac{f}{-b \, e \, a \, f} + \frac{1}{a \, b \, x}\right) / \left(-\frac{f}{-b \, e \, a \, f} + \frac{1}{a \, b \,$$

$$\left(\sqrt{\frac{-\frac{f}{beas} + \frac{1}{a \cdot b \times}}{-\frac{beas}{beas}}} \cdot \sqrt{\left(d + \frac{b \cdot c - a \cdot d}{a \cdot b \times} \right) \left(f + \frac{b \cdot e - a \cdot f}{a \cdot b \times} \right) \left(h + \frac{b \cdot g - a \cdot h}{a \cdot b \times} \right)} \right) + \\ \left(a^2 \cdot b \cdot B \cdot c \cdot f \cdot h \sqrt{\frac{\left(b \cdot c - a \cdot d \right) \left(b \cdot g - a \cdot h \right) \left(-\frac{d}{-b \cdot c + a \cdot d} + \frac{1}{a \cdot b \times} \right)}{b \cdot d \cdot g - b \cdot c \cdot h}} \cdot \left(-\frac{f}{-b \cdot e + a \cdot f} + \frac{1}{a \cdot b \times} \right) \right) + \\ \left(\sqrt{\frac{-\frac{h}{-b \cdot g \cdot a \cdot h}}{-\frac{h}{-b \cdot e \cdot a \cdot f}} - \frac{h}{-b \cdot g \cdot a \cdot h}} - \left(\left(b \cdot d \cdot g - b \cdot c \cdot h \right) \cdot EllipticE \right) \right) \right) + \\ \left(\left(b \cdot c - a \cdot d \right) \cdot \left(b \cdot g - a \cdot h \right) \cdot \left(-\frac{h}{b \cdot g - a \cdot h} \cdot \left(-\frac{h}{b \cdot c - a \cdot d} \cdot d \cdot EllipticF \right) \right) \right) - \\ \left(\left(b \cdot c - a \cdot d \right) \cdot \left(b \cdot g - a \cdot h \right) \cdot \left(-\frac{1}{-b \cdot c + a \cdot d} \cdot d \cdot EllipticF \right) \right) \right) - \\ \left(\sqrt{\frac{\left(b \cdot a \cdot a \cdot f \right) \cdot \left(h + \frac{b \cdot g}{a \cdot b \times} - \frac{a \cdot h}{a \cdot b \times} \right)}{b \cdot \left(-f \cdot g + e \cdot h \right)}} \right) \cdot \frac{\left(-b \cdot c + a \cdot d \right) \cdot \left(-f \cdot g - e \cdot h \right)}{\left(-b \cdot c + a \cdot f \right) \cdot \left(-d \cdot g - c \cdot h \right)} \right) \right) \right)} \right)$$

$$\left(\sqrt{\frac{-\frac{f}{-b \cdot e \cdot a \cdot f} + \frac{1}{a \cdot b \times}}{-\frac{h}{-b \cdot g \cdot a \cdot h}}} \cdot \sqrt{\left(d + \frac{b \cdot c - a \cdot d}{a \cdot b \times} \right) \cdot \left(f + \frac{b \cdot g - a \cdot f}{a \cdot b \times} \right) \cdot \left(h + \frac{b \cdot g - a \cdot h}{a \cdot b \times} \right)} \right) + \\ \left(-\frac{f}{-b \cdot e \cdot a \cdot f} + \frac{1}{a \cdot b \times} \cdot \frac{1}{a \cdot b \times} \right) \cdot \left(-\frac{f}{-b \cdot e \cdot a \cdot f} + \frac{1}{a \cdot b \times} \right)$$

$$\sqrt{\frac{-\frac{h}{-b \cdot e \cdot a \cdot f} + \frac{1}{a \cdot b \times}}{-\frac{h}{-b \cdot g \cdot a \cdot h}}} \cdot \left(-\frac{\left(b \cdot d \cdot g - b \cdot h \right) \cdot \left(-\frac{d}{-b \cdot c \cdot a \cdot d} + \frac{1}{a \cdot b \times} \right)}{b \cdot \left(-f \cdot g + e \cdot h \right)} \right) \right)$$

$$\sqrt{\frac{\left(b \cdot c - a \cdot d \right) \cdot \left(b \cdot g - a \cdot h \right) \cdot \left(-\frac{d}{-b \cdot c \cdot a \cdot d} + \frac{1}{a \cdot b \times} \right)}{b \cdot \left(-\frac{d}{-b \cdot c \cdot a \cdot d} + \frac{1}{a \cdot b \times} \right)}} \cdot \frac{\left(-b \cdot c + a \cdot d \cdot \left(-f \cdot g + e \cdot h \right)}{\left(-b \cdot c + a \cdot d \right) \cdot \left(-f \cdot g + e \cdot h \right)} \right) \right) }{b \cdot \left(-\frac{d}{-b \cdot c \cdot a \cdot d} \cdot \left(-\frac{d}{-b \cdot c \cdot a \cdot d} + \frac{1}{a \cdot b \times} \right) } \right) \cdot \frac{\left(-b \cdot c \cdot a \cdot d \cdot \left(-\frac{d}{-b \cdot c \cdot a \cdot d} + \frac{1}{a \cdot b \times} \right)}{b \cdot \left(-\frac{d}{-b \cdot c \cdot a \cdot d} + \frac{1}{a \cdot b \times} \right)} \right) }{b \cdot \left(-\frac{d}{-b \cdot c \cdot a \cdot d} \cdot \left(-\frac{d}{-b \cdot c \cdot a \cdot d} + \frac{1}{a \cdot b \times} \right) }{b \cdot \left(-\frac{d}{-b \cdot c \cdot a \cdot d} + \frac{1}{a \cdot b \cdot a \cdot d} \right) } \right)$$

$$\left(\left(b \cdot c - a \cdot d \right) \cdot$$

$$\sqrt{\frac{\left(be-af\right)\left(h+\frac{bg}{a+bx}-\frac{ah}{a+bx}\right)}{b\left(-fg+eh\right)}}} \, , \, \frac{\left(-bc+ad\right)\left(-fg+eh\right)}{\left(-be+af\right)\left(-dg+ch\right)} \, \right]} / \\ \sqrt{\frac{-\frac{f}{-be+af}+\frac{1}{a+bx}}{-be+af}} \, \sqrt{\left(d+\frac{bc-ad}{a+bx}\right)\left(f+\frac{be-af}{a+bx}\right)\left(h+\frac{bg-ah}{a+bx}\right)} - \\ \sqrt{\frac{-\frac{f}{-be+af}+\frac{1}{a+bx}}{-be+af}-\frac{h}{-bg+ah}}} \, - \sqrt{\left(d+\frac{bc-ad}{a+bx}\right)\left(f+\frac{bg-af}{a+bx}\right)\left(h+\frac{bg-ah}{a+bx}\right)} - \\ \sqrt{\frac{-\frac{h}{-bg+ah}+\frac{1}{a+bx}}{-be+af}-\frac{h}{-bg+ah}}} \, - \left[\left(bdg-bch \right) \, EllipticE \left[-\frac{f}{-bc+af} + \frac{1}{a+bx} \right) \right] , \, \left(-bc+ad \right) \left(-fg+eh \right) \\ \sqrt{\left(bc-ad \right) \left(bg-ah \right)} - \frac{1}{-bc+ad} \, d \, EllipticF \left[ArcSin \left[-\frac{f}{-bc+af} + \frac{1}{a+bx} \right] \right] \right)$$

$$\left(\left(bc-af \right) \left(h+\frac{bg}{a+bx} - \frac{ah}{a+bx} \right) \\ \sqrt{\frac{f}{-bc+af} + \frac{1}{a+bx}} \, \sqrt{\left(d+\frac{bc-ad}{a+bx} \right) \left(f+\frac{be-af}{a+bx} \right) \left(h+\frac{bg-ah}{a+bx} \right)} \right]$$

$$\left(\sqrt{\frac{f}{-\frac{f}{-bc+af} + \frac{1}{a+bx}}} \, \sqrt{\left(d+\frac{bc-ad}{a+bx} \right) \left(f+\frac{be-af}{a+bx} \right) \left(h+\frac{bg-ah}{a+bx} \right)} \right) +$$

$$EllipticF \left[ArcSin \left[\sqrt{\frac{(-be+af) - \frac{1}{a+bx}}{(-be+af) - \frac{1}{a+bx}}} \, \sqrt{\frac{(-bc+ad) - \frac{1}{a+bx}}{(-be+af) - \frac{1}{a+bx}}} \, \sqrt{\frac{(-bc+ad) - \frac{1}{a+bx}}{(-be+af) - \frac{1}{a+bx}}}} \, \sqrt{\frac{(-bc+ad) - \frac{1}{a+bx}}{(-be+af) - \frac{1}{a+bx}}} \, \sqrt{\frac{(-bc+ad) - \frac{1}{a+bx}}{(-be+af) - \frac{1}{a+bx}}} \, \sqrt{\frac{(-bc+ad) - \frac{1}{a+bx}}{(-be+af) - \frac{1}{a+bx}}} \, \sqrt{\frac{(-bc+ad) - \frac{1}{a+bx}}{(-be+af) - \frac{1}{a+bx}}}} \, - \sqrt{\frac{(-bc+ad) - \frac{1}{a+bx}}{(-be+af) - \frac{1}{a+bx}}}}} \, - \sqrt{\frac{(-bc+ad) - \frac{1}{a+bx}}{(-be+af) - \frac{1}{a+bx}}}} \, - \sqrt{\frac{(-bc+ad) - \frac{1}{a+bx}}{(-be+af) - \frac{1}{a+bx}}}}} \, - \sqrt{\frac{(-bc+ad) - \frac{1}{a+bx}}{(-be+af) - \frac{1}{a+bx}}}} \, - \sqrt{\frac{(-bc+ad) - \frac{1}{a+b$$

$$\begin{cases} a \, b \, B \, d \, f \, g & -\frac{d}{-b \, c \, a \, d} + \frac{1}{a \, b \, c \, a \, d} \\ -\frac{d}{-b \, c \, a \, d} + \frac{1}{a \, b \, b \, a} & -\frac{f}{-b \, a \, a \, f} + \frac{1}{a \, b \, b} \\ -\frac{d}{-b \, a \, a \, f} + \frac{b}{a \, b \, a} & -\frac{b}{b \, g \, a \, h} & -\frac{h}{b \, g \, a \, h} + \frac{1}{a \, b \, b} \\ \end{cases} \end{cases} \\ EllipticF \left[ArcSin \left[\sqrt{\frac{\left(-b \, e \, a \, f\right) \left(-h \, -\frac{b \, g}{a \, b \, b} + \frac{a \, b \, b}{a \, b \, b} \right)}{b \left(-f \, g \, e \, h\right)} \right], \, \frac{\left(-b \, c \, a \, d\right) \left(-f \, g \, e \, h\right)}{\left(-b \, e \, a \, f\right) \left(-d \, g \, c \, h\right)} \right] \\ \begin{pmatrix} \frac{-\frac{h}{b \, g \, a \, h} + \frac{1}{a \, b \, b \, c}}{-\frac{h}{a \, b \, c \, a \, d} + \frac{1}{a \, b \, b \, c}} \\ \sqrt{\frac{d}{d} + \frac{b \, c \, a \, d}{a \, b \, b \, c}} \\ -\frac{d}{-b \, c \, a \, d} + \frac{1}{a \, b \, b \, c} \\ -\frac{d}{-b \, c \, a \, d} + \frac{1}{a \, b \, b \, c} \\ -\frac{d}{-b \, c \, a \, d} + \frac{1}{a \, b \, b \, c} \\ -\frac{d}{-b \, c \, a \, d} + \frac{1}{a \, b \, b \, c} \\ -\frac{d}{-b \, c \, a \, d} + \frac{1}{a \, b \, b \, c} \\ \end{pmatrix} & \begin{pmatrix} -\frac{d}{-b \, c \, a \, d} + \frac{1}{a \, b \, b \, c} \\ -\frac{d}{-b \, c \, a \, d} + \frac{1}{a \, b \, b \, c} \\ \end{pmatrix} & \begin{pmatrix} -\frac{b}{-b \, c \, a \, d} + \frac{1}{a \, b \, b \, c} \\ -\frac{d}{-b \, c \, a \, d} + \frac{1}{a \, b \, b \, c} \\ \end{pmatrix} & \begin{pmatrix} -\frac{b}{-b \, c \, a \, d} + \frac{1}{a \, b \, b \, c} \\ \end{pmatrix} & \begin{pmatrix} -\frac{b}{-b \, c \, a \, d} + \frac{1}{a \, b \, b \, c} \\ \end{pmatrix} & \begin{pmatrix} -\frac{b}{-b \, c \, a \, d} + \frac{1}{a \, b \, b \, c} \\ \end{pmatrix} & \begin{pmatrix} -\frac{b}{-b \, c \, a \, d} + \frac{1}{a \, b \, b \, c} \\ \end{pmatrix} & \begin{pmatrix} -\frac{b}{-b \, c \, a \, d} + \frac{1}{a \, b \, b \, c} \\ \end{pmatrix} & \begin{pmatrix} -\frac{b}{-b \, c \, a \, d} + \frac{1}{a \, b \, b \, c} \\ \end{pmatrix} & \begin{pmatrix} -\frac{b}{-b \, c \, a \, d} + \frac{1}{a \, b \, b \, c} \\ \end{pmatrix} & \begin{pmatrix} -\frac{b}{-b \, c \, a \, d} + \frac{1}{a \, b \, b \, c} \\ \end{pmatrix} & \begin{pmatrix} -\frac{b}{-b \, c \, a \, d} + \frac{1}{a \, b \, b \, c} \\ \end{pmatrix} & \begin{pmatrix} -\frac{b}{-b \, c \, a \, d} + \frac{1}{a \, b \, b \, c} \\ \end{pmatrix} & \begin{pmatrix} -\frac{b}{-b \, c \, a \, d} + \frac{1}{a \, b \, b \, c} \\ \end{pmatrix} & \begin{pmatrix} -\frac{b}{-b \, c \, a \, d} + \frac{1}{a \, b \, b \, c} \\ \end{pmatrix} & \begin{pmatrix} -\frac{b}{-b \, c \, a \, d} + \frac{1}{a \, b \, b \, c} \\ \end{pmatrix} & \begin{pmatrix} -\frac{b}{-b \, c \, a \, d} + \frac{1}{a \, b \, b \, c} \\ \end{pmatrix} & \begin{pmatrix} -\frac{b}{-b \, c \, a \, d} + \frac{1}{a \, b \, b \, c} \\ \end{pmatrix} & \begin{pmatrix} -\frac{b}{-b \, c \, a \, d} + \frac{1}{a \, b \, b \, c} \\ \end{pmatrix} & \begin{pmatrix} -\frac{b}{-b \, c \, a \, d} + \frac{1}{a \, b \, b \, c} \\ \end{pmatrix} & \begin{pmatrix} -\frac{b}{-b \, c \, a \, d} + \frac{1}{a \, b \, b \, c} \\ \end{pmatrix} & \begin{pmatrix} -\frac{b}{-b \, c \, a \, d} + \frac{1}{a \, b \, b$$

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

$$\left(-\frac{h}{-be+ah} + \frac{1}{a+b\,x} \right)$$

$$\left($$

Problem 11: Result more than twice size of optimal antiderivative.

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

Optimal (type 4, 898 leaves, 10 steps):

$$\frac{(5 \, ad \, fh - b \, \left(3 \, df \, g + de \, h + c \, fh\right)\right) \sqrt{a + b \, x} \, \sqrt{e + f \, x} \, \sqrt{g + h \, x}}{2 \, fh^2 \, \sqrt{c + d \, x}} + \frac{2 \, fh^2 \, \sqrt{c + d \, x}}{b \, \sqrt{a + b \, x} \, \sqrt{e + f \, x} \, \sqrt{g + h \, x}} - \frac{1}{b} \sqrt{a + b \, x} \, \sqrt{e + f \, x} \, \sqrt{g + h \, x}}{h}$$

$$\left[\sqrt{dg - ch} \, \sqrt{fg - eh} \, \left(5 \, ad \, fh - b \, \left(3 \, df \, g + de \, h + c \, fh\right)\right) \, \sqrt{a + b \, x}} \, \sqrt{-\frac{(de - cf) \, \left(g + h \, x\right)}{(fg - eh) \, \left(c + d \, x\right)}} \right] \right]$$

$$EllipticE \left[ArcSin \left[\frac{\sqrt{dg - ch} \, \sqrt{e + f \, x}}{\sqrt{fg - eh} \, \sqrt{c + d \, x}} \right], \, \frac{(bc - ad) \, \left(fg - eh\right)}{(be - af) \, \left(dg - ch\right)} \right] \right]$$

$$\left[2 \, df \, h^2 \, \sqrt{\frac{(de - cf) \, \left(a + b \, x\right)}{(be - af) \, \left(c + d \, x\right)}} \, \sqrt{g + h \, x} \right] - \frac{(be - af) \, \left(c + d \, x\right)}{(de - cf) \, \left(a + b \, x\right)}$$

$$\sqrt{g + h \, x} \, EllipticF \left[ArcSin \left[\frac{\sqrt{bg - ah} \, \sqrt{e + f \, x}}{\sqrt{fg - eh} \, \sqrt{a + b \, x}} \right], \, -\frac{(bc - ad) \, \left(fg - eh\right)}{(de - cf) \, \left(bg - ah\right)} \right] \right]$$

$$\left[2b \, fh^2 \, \sqrt{fg - eh} \, \sqrt{c + d \, x} \, \sqrt{-\frac{(be - af) \, \left(g + h \, x\right)}{(fg - eh) \, \left(a + b \, x\right)}} \right] - \frac{\left(bg - ah\right) \, \left(e + h \, x\right)}{\left(dg - ch\right) \, \left(a + b \, x\right)} \, \sqrt{\frac{(bg - ah) \, \left(c + d \, x\right)}{(dg - ch) \, \left(a + b \, x\right)}} \, \sqrt{\frac{(bg - ah) \, \left(c + d \, x\right)}{(fg - eh) \, \left(a + b \, x\right)}} \, \sqrt{\frac{(bg - ah) \, \left(c + d \, x\right)}{(dg - ch) \, \left(a + b \, x\right)}} \, \sqrt{\frac{(bg - ah) \, \left(c + d \, x\right)}{(dg - ch) \, \left(a + b \, x\right)}} \, \sqrt{\frac{(bg - ah) \, \left(c + d \, x\right)}{(dg - ch) \, \left(a + b \, x\right)}} \, \sqrt{\frac{(bg - ah) \, \left(c + d \, x\right)}{(dg - ch) \, \left(a + b \, x\right)}} \, \sqrt{\frac{(bg - ah) \, \left(c + d \, x\right)}{(dg - ch) \, \left(a + b \, x\right)}} \, \sqrt{\frac{(bg - ah) \, \left(c + d \, x\right)}{(fg - eh) \, \left(a + b \, x\right)}}} \, \sqrt{\frac{(bg - ah) \, \left(c + d \, x\right)}{(dg - ch) \, \left(a + b \, x\right)}} \, \sqrt{\frac{(bg - ah) \, \left(c + d \, x\right)}{(dg - ch) \, \left(a + b \, x\right)}} \, \sqrt{\frac{(bg - ah) \, \left(c + d \, x\right)}{(dg - ch) \, \left(a + b \, x\right)}} \, \sqrt{\frac{(bg - ah) \, \left(c + d \, x\right)}{(dg - ch) \, \left(a + b \, x\right)}} \, \sqrt{\frac{(bg - ah) \, \left(c + d \, x\right)}{(dg - ch) \, \left(a + b \, x\right)}} \, \sqrt{\frac{(bg - ah) \, \left(c + d \, x\right)}{(dg - ch) \, \left(a + b \, x\right)}} \, \sqrt{\frac{(bg - ah) \, \left(c + d \, x\right)}{(dg - ch) \, \left(a + b \, x\right)}} \, \sqrt{\frac{(bg - ah) \, \left(c + d \, x\right)}{(dg - ch) \, \left(c + d \, x\right$$

Result (type 4, 14853 leaves):

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

$$\frac{1}{b^2h} \left[\left(-3\,b\,d\,f\,g - b\,d\,e\,h - b\,c\,f\,h + 5\,a\,d\,f\,h \right) \, \left(a + b\,x \right)^{5/2} \left(d + \frac{b\,c}{a + b\,x} - \frac{a\,d}{a + b\,x} \right) \right. \\ \left. \left(f + \frac{b\,e}{a + b\,x} - \frac{a\,f}{a + b\,x} \right) \left(h + \frac{b\,g}{a + b\,x} - \frac{a\,h}{a + b\,x} \right) \right/ \\ \left[2\,d\,f\,h\,\sqrt{c} + \frac{\left(a + b\,x \right) \, \left(d - \frac{a\,d}{a + b\,x} \right)}{b} \, \sqrt{e} + \frac{\left(a + b\,x \right) \, \left(f - \frac{a\,f}{a + b\,x} \right)}{b} \, \sqrt{g} + \frac{\left(a + b\,x \right) \, \left(h - \frac{a\,h}{a + b\,x} \right)}{b} \, \right) + \\ \left[1 \right/ \left[2\,d\,f\,h\,\sqrt{c} + \frac{\left(a + b\,x \right) \, \left(d - \frac{a\,d}{a + b\,x} \right)}{b} \, \sqrt{e} + \frac{\left(a + b\,x \right) \, \left(f - \frac{a\,f}{a + b\,x} \right)}{b} \, \sqrt{g} + \frac{\left(a + b\,x \right) \, \left(h - \frac{a\,h}{a + b\,x} \right)}{b} \, \right) + \\ \left[\left(a + b\,x \right)^{3/2} \, \sqrt{\left(\left(d + \frac{b\,c}{a + b\,x} - \frac{a\,d}{a + b\,x} \right) \, \left(f + \frac{b\,e}{a + b\,x} - \frac{a\,f}{a + b\,x} \right) \, \left(\left(h + \frac{b\,g}{a + b\,x} - \frac{a\,h}{a + b\,x} \right) \right) \, \left(\left(3\,b^4\,c\,d\,e\,f + \frac{a\,g}{a + b\,x} \right) + \frac{g^2 \, \sqrt{\frac{\left(b\,c - a\,d \right) \, \left(b\,g - a\,h \right) \, \left(-\frac{d}{a + b\,x} + \frac{1}{a + b\,x} \right) \, \sqrt{\frac{-\frac{h}{b + a\,f} + \frac{1}{a + b\,x} \, \left(\frac{f}{b + a\,f} + \frac{h}{a + b\,x} \right)}{\frac{f}{b\,g - a\,f} - \frac{h}{a + b\,x} + \frac{1}{a + b\,x} \, \sqrt{\frac{f}{a + b\,g - a\,h} \, \left(-\frac{h}{b\,g - a\,f} + \frac{h}{a + b\,x} \right) \, \left(-\frac{h}{b\,g - a\,f} + \frac{1}{a + b\,x} \right) \, \left(-\frac{h}{b\,g - a\,f} + \frac{1}{a + b\,x} \right) \, \left(-\frac{h}{a + b\,a + b\,x} + \frac{1}{a + b\,x} \right) \, \left(-\frac{h}{a + b\,a + b\,x} + \frac{1}{a + b\,x} \right) \, \left(-\frac{h}{a + b\,a + b\,x} + \frac{1}{a + b\,x} \right) \, \left(-\frac{h}{a + b\,a + b\,x} + \frac{1}{a + b\,x} \right) \, \left(-\frac{h}{a + b\,a + b\,x} + \frac{1}{a + b\,x} \right) \, \left(-\frac{h}{a + b\,a + b\,x} + \frac{1}{a + b\,x} \right) \, \left(-\frac{h}{a + b\,a + b\,x} + \frac{1}{a + b\,x} \right) \, \left(-\frac{h}{a + b\,a + b\,x} + \frac{1}{a + b\,x} \right) \, \left(-\frac{h}{a + b\,a + b\,x} + \frac{1}{a + b\,x} \right) \, \left(-\frac{h}{a + b\,a + b\,x} + \frac{1}{a + b\,x} \right) \, \left(-\frac{h}{a + b\,a + b\,x} + \frac{1}{a + b\,x} \right) \, \left(-\frac{h}{a + b\,a + b\,x} + \frac{1}{a + b\,x} \right) \, \left(-\frac{h}{a + b\,a + b\,x} + \frac{1}{a + b\,x} \right) \, \left(-\frac{h}{a + b\,a + b\,x} + \frac{1}{a + b\,x} \right) \, \left(-\frac{h}{a + b\,a + b\,x} + \frac{1}{a + b\,x} \right) \, \left(-\frac{h}{a + b\,a + b\,x} + \frac{1}{a + b\,x} \right) \, \left(-\frac{h}{a + b\,a + b\,x} + \frac{1}{a + b\,x} \right) \, \left(-\frac{h}{a + b\,a + b\,x} + \frac{1}{a + b\,x} \right) \, \left(-\frac{h}{a + b\,a + b\,x} + \frac{1}{a + b\,x} +$$

$$\left(- \left| \left(b \, d \, g - b \, c \, h \right) \, EllipticE \left[ArcSin \left[\sqrt{\frac{\left(b \, e - a \, f \right) \, \left(h + \frac{b \, g}{a + b \, x} \, \frac{a \, h}{a + b \, x}}{b \, \left(- f \, g + e \, h \right)}} \right] \right] \right) } \right) \frac{\left(- b \, c + a \, d \right) \, \left(- f \, g + e \, h \right)}{b \, \left(- b \, g + a \, f \right) \, \left(- d \, g + c \, h \right)} \right] \right) }{\left(- b \, c + a \, d \right) \, \left(- d \, g + c \, h \right)} \right] \right) \left(\left(b \, c - a \, d \right) \, \left(b \, g - a \, h \right) \right) \right) - \frac{1}{-b \, c + a \, d}$$

$$d \, EllipticF \left[ArcSin \left[\sqrt{\frac{\left(b \, e \, - a \, f \right) \, \left(h + \frac{b \, g}{a + b \, x} - \frac{a \, h}{a + b \, x} \right)}{b \, \left(- f \, g + e \, h \right)}} \right] \right) \left(- b \, c + a \, f \right) \, \left(- d \, g + c \, h \right) } \right) \right]$$

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

$$\left(- \frac{f}{-b \, e + a \, f} + \frac{1}{a + b \, x} \right) \sqrt{\frac{-\frac{h}{-b \, g + a \, f} + \frac{1}{a \cdot b \, x}}{b \, e + a \, f} - \frac{h}{-b \, e + a \, f} - \frac{a \, h}{a \cdot b \, x}} \right) } \right.$$

$$\left(- \left[\left(b \, d \, g - b \, c \, h \right) \, EllipticE \left[ArcSin \left[\sqrt{\frac{\left(b \, e \, - a \, f \right) \, \left(h + \frac{b \, g}{a \cdot b \, x} - \frac{a \, h}{a \cdot b \, x} \right)}}{b \, \left(- f \, g + e \, h \right)} \right] \right) \right.$$

$$\left. - \frac{\left(- b \, c + a \, d \right) \, \left(- f \, g + e \, h \right)}{\left(- b \, e \, + a \, f \right) \, \left(- d \, g + c \, h \right)} \right] \right) \right) \left(- \frac{1}{-b \, c + a \, d} \right)$$

$$d \, EllipticF \left[ArcSin \left[\sqrt{\frac{\left(b \, e \, - a \, f \right) \, \left(h \, e \, - \frac{a \, h}{a \cdot b \, x} - \frac{a \, h}{a \cdot b \, x} \right)}}{b \, \left(- f \, g + e \, h \right)} \right] \right) \right] \left(- b \, c + a \, d \right) \left(- f \, g + e \, h \right) \right) \right] \right)$$

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

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

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

$$\left(-\frac{f}{-be+af} + \frac{1}{a+bx} \right) \sqrt{\frac{-\frac{h}{-bg+ah} + \frac{1}{a+bx}}{\frac{f}{-be+af} - \frac{h}{-bg+ah}}}$$

$$\left(-\left[\left(bdg-bch \right) EllipticE \left[ArcSin \left[\sqrt{\frac{\left(be-af \right) \left(h + \frac{bg}{a+bx} - \frac{ah}{a+bx} \right)}{b \left(-fg+eh \right)}} \right], \right. \right.$$

$$\left. \frac{\left(-bc+ad \right) \left(-fg+eh \right)}{\left(-be+af \right) \left(-dg+ch \right)} \right] \middle/ \left(\left(bc-ad \right) \left(bg-ah \right) \right) = \frac{1}{-bc+ad}$$

$$dEllipticF \left[ArcSin \left[\sqrt{\frac{\left(be-af \right) \left(h + \frac{bg}{a+bx} - \frac{ah}{a+bx} \right)}{b \left(-fg+eh \right)}} \right], \left(-bc+ad \right) \left(-fg+eh \right)} \right] \middle) \middle/$$

$$\sqrt{\frac{-\frac{f}{-be+af} + \frac{1}{a+bx}}{-\frac{f}{-be+af} + \frac{h}{bg+ah}}} \sqrt{ \left(d + \frac{bc-ad}{a+bx} \right) \left(f + \frac{be-af}{a+bx} \right) \left(h + \frac{bg-ah}{a+bx} \right)} \right) +$$

$$\sqrt{\frac{b^2 cde^2 gh}{-be+af} + \frac{1}{a+bx}} \sqrt{ \frac{\left(bg-ah \right) \left(-\frac{d}{bc+ad} + \frac{1}{a+bx} \right)}{b dg-bch}}$$

$$\sqrt{ -\left[\left(bdg-bch \right) EllipticE \left[ArcSin \left[\sqrt{\frac{\left(be-af \right) \left(h + \frac{bg}{a+bx} - \frac{ah}{a+bx} \right)}{b \left(-fg+eh \right)}} \right],$$

$$\sqrt{ -bc+ad \left(-dg+ch \right)} \right] \middle/ \left(\left(bc-ad \right) \left(bg-ah \right) \left(-\frac{1}{-bc+ad} - \frac{1}{a+bx} \right)$$

$$dEllipticF \left[ArcSin \left[\sqrt{\frac{\left(be-af \right) \left(h + \frac{bg}{a+bx} - \frac{ah}{a+bx} \right)}{b \left(-fg+eh \right)}} \right],$$

$$\sqrt{ -bc+ad \left(-dg+ch \right)} \left(-dg+ch \right) \right] \middle/ \left(-bc+ad \right) \left(-dg+ch \right) \right] \middle) \middle/$$

$$\sqrt{ -\frac{f}{-be+af} + \frac{1}{a-bx}} \sqrt{ \left(d + \frac{bc-ad}{a+bx} \right) \left(f + \frac{be-af}{a+bx} \right) \left(h + \frac{bg-ah}{a+bx} \right) -$$

$$\left[ab^{3} d^{2} e^{2} gh \sqrt{\frac{\left(bc-ad\right) \left(bg-ah\right) \left(-\frac{d}{-bc+ad} + \frac{1}{a\cdot bx}\right)}{bdg bch}} \right]$$

$$\left[-\frac{f}{-be+af} + \frac{1}{a+bx} \right) \sqrt{\frac{-\frac{h}{-bg+ah} + \frac{1}{a\cdot bx}}{-\frac{h}{-be+af} - \frac{h}{-bg+ah}}}$$

$$\left[-\left[\left(bdg-bch\right) \text{EllipticE} \left[ArcSin \left[\sqrt{\frac{\left(be-af\right) \left(h + \frac{bg}{a\cdot bx} - \frac{ah}{a\cdot bx}\right)}{b \left(-fg+eh\right)}} \right], \right. \right]$$

$$\left. \frac{\left(-bc+ad\right) \left(-fg+eh\right)}{\left(-be+af\right) \left(-dg+ch\right)} \right] / \left(\left(bc-ad\right) \left(bg-ah\right) \right) - \frac{1}{-bc+ad}$$

$$d \, \text{EllipticF} \left[ArcSin \left[\sqrt{\frac{\left(be-af\right) \left(h + \frac{bg}{a\cdot bx} - \frac{ah}{a\cdot bx}\right)}{b \left(-fg+eh\right)}} \right], \frac{\left(-bc+ad\right) \left(-fg+eh\right)}{\left(-be+af\right) \left(-dg+ch\right)} \right] \right] /$$

$$\left[\sqrt{\frac{-\frac{f}{-be+af} + \frac{1}{a\cdot bx}}{-\frac{f}{-be+af}}} \sqrt{\left(d + \frac{bc-ad}{a+bx}\right) \left(f + \frac{be-af}{a+bx}\right) \left(h + \frac{bg-ah}{a+bx}\right)} \right] +$$

$$\left[\sqrt{\frac{f}{-be+af} + \frac{1}{a\cdot bx}} \sqrt{\frac{-\frac{h}{-bg+ah} + \frac{1}{a\cdot bx}}{-\frac{f}{-be+af} - \frac{h}{a\cdot bx}}} \right]$$

$$b \, dg-bch$$

$$\left[-\left[\left(bdg-bch\right) \text{EllipticE} \left[ArcSin \left[\sqrt{\frac{\left(be-af\right) \left(h + \frac{bg}{a\cdot bx} - \frac{ah}{a\cdot bx}\right)}{b \left(-fg+eh\right)}} \right], \frac{\left(-bc+ad\right) \left(-fg+eh\right)}{-bc+ad} \right]$$

$$d \, EllipticF \left[ArcSin \left[\sqrt{\frac{\left(be-af\right) \left(h + \frac{bg}{a\cdot bx} - \frac{ah}{a\cdot bx}\right)}{b \left(-fg+eh\right)}} \right], \frac{\left(-bc+ad\right) \left(-fg+eh\right)}{\left(-be+af\right) \left(-dg+ch\right)} \right] \right] /$$

$$\left(\sqrt{\frac{-\frac{f}{-\frac{be-af}{+\frac{1}{a-bx}}}}{-\frac{f}{-\frac{be-af}{+\frac{1}{a-bx}}}} \sqrt{\left(d + \frac{bc-ad}{a+bx}\right) \left(f + \frac{be-af}{a+bx}\right) \left(h + \frac{bg-ah}{a+bx}\right)} - \frac{1}{a+bx} \right)$$

$$\left(-\frac{f}{-be+af} + \frac{1}{a+bx} \right) \sqrt{\frac{-\frac{h}{-bg+ah} + \frac{1}{a+bx}}{-\frac{bg-ah}{-be+af} - \frac{h}{-bg+ah}}}$$

$$\left(-\left[\left(bdg-bch\right) \text{ EllipticE} \left[ArcSin \left[\sqrt{\frac{\left(be-af\right) \left(h + \frac{bg}{-abx} - \frac{ah}{a-bx}\right)}{b \left(-fg+eh\right)}} \right], \right. \right.$$

$$\left. \frac{\left(-bc+ad\right) \left(-fg+eh\right)}{\left(-be+af\right) \left(-dg+ch\right)} \right] \right/ \left(\left(bc-ad\right) \left(bg-ah\right) \left(-\frac{1}{-bc+ad} - \frac{ah}{a-bx}\right) \right)$$

$$\left. \frac{\left(-bc+ad\right) \left(-fg+eh\right)}{\left(-be+af\right) \left(-dg+ch\right)} \right] \right/ \left(\left(bc-af\right) \left(h + \frac{bg-ah}{a-bx} - \frac{ah}{a-bx}\right) \right)$$

$$\left. \frac{\left(-bc+ad\right) \left(-fg+eh\right)}{\left(-be+af\right) \left(-dg+ch\right)} \right] \right) / \left(\frac{be-af}{a+bx} \right) \left(\frac{be-af}{a+bx} \right) \left(\frac{bg-ah}{a+bx} \right) \right)$$

$$\left(\sqrt{\frac{-\frac{f}{-be+af} + \frac{1}{a-bx}}{-be+af} - \frac{h}{-bg+ah}} \sqrt{\left(d + \frac{bc-ad}{a+bx}\right) \left(f + \frac{be-af}{a+bx}\right) \left(h + \frac{bg-ah}{a+bx}\right)} \right) +$$

$$\left(-\frac{f}{-be+af} + \frac{1}{a+bx} \right) \sqrt{\frac{-\frac{h}{-bg+ah} + \frac{1}{a+bx}}{-be+af} - \frac{h}{-bg+ah}}$$

$$\left(-\left[\left(bdg-bch\right) \text{ EllipticE} \left[ArcSin \left(\sqrt{\frac{\left(be-af\right) \left(h + \frac{bg}{a+bx} - \frac{ah}{a-bx}\right)}{a-bx} - \frac{ah}{a-bx}} \right) \right] ,$$

$$\left(-\frac{bc+ad}{\left(-be+af\right) \left(-dg+ch\right)} \right] / \left(\left(bc-ad\right) \left(bg-ah\right) \right) - \frac{1}{-bc+ad}$$

$$\begin{split} & \text{d EllipticF} \Big[\text{ArcSin} \Big[\sqrt{\frac{\left(b \, e - a \, f\right) \, \left(h + \frac{b \, g}{a \cdot b \, x} - \frac{a \, h}{a \cdot b \, x}\right)}{b \, \left(-f \, g + e \, h\right)}} \, \Big], \, \frac{\left(-b \, c + a \, d\right) \, \left(-f \, g + e \, h\right)}{\left(-b \, e + a \, f\right) \, \left(-d \, g + c \, h\right)} \, \Big] \Big] \Big/ \\ & \sqrt{\frac{-\frac{f}{-b \, e + a \, f} + \frac{1}{b \, g + a \, h}}{-\frac{b \, g}{-b \, e + a}}} \, \sqrt{\left(d + \frac{b \, c - a \, d}{a + b \, x}\right) \left(f + \frac{b \, e - a \, f}{a + b \, x}\right) \left(h + \frac{b \, g - a \, h}{a + b \, x}\right)} \, - \\ & \left(a \, b^3 \, c^2 \, f^2 \, g \, h \sqrt{\frac{\left(b \, c - a \, d\right) \, \left(b \, g - a \, h\right) \left(-\frac{d}{-b \, e + a} + \frac{1}{a \cdot b \, x}\right)}}{b \, d \, g \, b \, c \, h}} \\ & \left(-\frac{f}{-b \, e + a \, f} + \frac{1}{a + b \, x}\right) \sqrt{\frac{-\frac{h}{-b \, g + a \, h} + \frac{1}{a \cdot b \, x}}{\frac{f}{-b \, e + a \, f} - \frac{h}{-b \, g \cdot a \, h}}} \right. \\ & \left(-\left[\left(b \, d \, g - b \, c \, h\right) \, EllipticE \left[ArcSin \left[\sqrt{\frac{\left(b \, e - a \, f\right) \, \left(h + \frac{b \, g}{-a \, b \, x} - \frac{a \, h}{a \cdot b \, x}\right)}{b \, \left(-f \, g + e \, h\right)}}\right]\right] \right/ \\ & \left(\frac{-b \, c + a \, d\right) \, \left(-f \, g + e \, h\right)}{\left(-b \, e + a \, f\right) \, \left(-d \, g + a \, h\right)} \left[-\frac{1}{-b \, c + a \, d}\right] \\ & \frac{\left(-b \, c + a \, d\right) \, \left(-f \, g + e \, h\right)}{\left(-b \, e + a \, f\right) \, \left(-b \, g + a \, h\right)} \right] \right)}{b \, \left(-f \, g + e \, h\right)} \\ & \left(\sqrt{\frac{-\frac{f}{-b \, e + a \, f} + \frac{1}{a \cdot b \, x}}{b \, b \, c + a}}} \, \sqrt{\left(d + \frac{b \, c - a \, d}{a + b \, x}\right) \left(f + \frac{b \, e - a \, f}{a + b \, x}\right) \left(h + \frac{b \, g - a \, h}{a + b \, x}\right)}{\left(-b \, e + a \, f\right) \, \left(-d \, g + c \, h\right)}} \right)} \right] \right) \\ & \left(\sqrt{\frac{-\frac{f}{-b \, e + a \, f} + \frac{1}{a \cdot b \, x}}{b \, b \, c + a \, b \, x}}} \, \sqrt{\left(d + \frac{b \, c - a \, d}{a + b \, x}\right) \left(f + \frac{b \, e - a \, f}{a + b \, x}\right) \left(h + \frac{b \, g - a \, h}{a + b \, x}\right)}} \right)} \right) \\ & \left(-\frac{f}{-b \, e + a \, f} + \frac{1}{a \cdot b \, x}\right) \sqrt{\frac{-\frac{h}{-b \, g + a \, h} + \frac{1}{a \cdot b \, x}}{\frac{f}{-b \, b + a \, f} - \frac{h}{a \cdot b \, x}}}} \right)}{b \, d \, g - b \, c \, h}} \right) \\ & \left(-\frac{f}{-b \, e + a \, f} + \frac{1}{a \cdot b \, x}\right) \sqrt{\frac{-\frac{h}{-b \, g + a \, h} + \frac{1}{a \cdot b \, x}}{\frac{f}{-b \, b + a \, f} - \frac{h}{a \cdot b \, x}}} \right)} \right) \\ & \left(-\frac{f}{-b \, e + a \, f} + \frac{1}{a \cdot b \, x}\right) \sqrt{\frac{-\frac{h}{-b \, g + a \, h} + \frac{1}{a \cdot b \, x}}{\frac{f}{-b \, b \, e - a \, f} - \frac{h}{-b \, b \, a \, b}}}{\frac{f}{-b \, b \, e - a \, f}} \right)} \right)} \right]$$

$$\frac{\left(-b\,c + a\,d\right)\,\left(-f\,g + e\,h\right)}{\left(-b\,e + a\,f\right)\,\left(-d\,g + c\,h\right)} \Bigg] \Bigg/ \left(\left(b\,c - a\,d\right)\,\left(b\,g - a\,h\right)\right) \Bigg] - \frac{1}{-b\,c + a\,d}$$

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

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

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

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

$$\left(-\frac{\left(-b\,c + a\,d\right)\,\left(-f\,g + e\,h\right)}{\left(-b\,e + a\,f\right)\,\left(-d\,g + c\,h\right)}\right] \Big/ \left(\left(b\,c - a\,d\right)\,\left(b\,g - a\,h\right)\right) \Big) - \frac{1}{-b\,c + a\,d}}$$

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

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

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

$$\left(-\left(\left[\left(b \, d \, g - b \, c \, h \right) \, EllipticE \left[ArcSin \left[\sqrt{\frac{\left(b \, e - a \, f \right) \, \left(h + \frac{b \, g}{a \, b \, x} - \frac{a \, h}{a \, b \, x} \right)}{b \, \left(- f \, g + e \, h \right)}} \right], \\ \frac{\left(- b \, c + a \, d \right) \, \left(- f \, g + e \, h \right)}{\left(- b \, e + a \, f \right) \, \left(- d \, g + c \, h \right)} \right] / \left(\left(b \, c - a \, d \right) \, \left(b \, g - a \, h \right) \right) - \frac{1}{-b \, c + a \, d}$$

$$d \, EllipticF \left[ArcSin \left[\sqrt{\frac{\left(b \, e - a \, f \right) \, \left(h + \frac{b \, g}{a + b \, x} - \frac{a \, h}{a + b \, x} \right)}{b \, \left(- f \, g + e \, h \right)}} \right], \frac{\left(- b \, c + a \, d \right) \, \left(- f \, g + e \, h \right)}{\left(- b \, e + a \, f \right) \, \left(- d \, g + c \, h \right)} \right] \right) /$$

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

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

$$\left(-\frac{\left(- b \, c + a \, d \right) \, \left(- f \, g + e \, h \right)}{\left(- b \, e + a \, f \right) \, \left(- d \, g + c \, h \right)} \right) \right) / \left(\left(b \, c - a \, d \right) \, \left(b \, g - a \, h \right) \right) - \frac{1}{-b \, c + a \, d} \right)$$

$$\left(-\frac{1}{-b \, c + a \, d} \right) \, \left(-\frac{1}{-b \, c + a \, d} \right) \left(-\frac{1}{-b \, c + a \, d} \right) \left(-\frac{1}{-b \, c + a \, d} \right) / \left(-\frac{1}{-b \, c + a \, d} \right) \left(-\frac{1}{-b \, c + a \, d} \right) \left(-\frac{1}{-b \, c + a \, d} \right) \right) \right) /$$

$$\left(-\frac{1}{-b \, c + a \, d} \right) \left(-\frac{1}{-b \, c + a \, d} \right) \left(-\frac{1}{-b \, c + a \, d} \right) \left(-\frac{1}{-b \, c + a \, d} \right) \left(-\frac{1}{-b \, c + a \, d} \right) \left(-\frac{1}{-b \, c + a \, d} \right) \left(-\frac{1}{-b \, c + a \, d} \right) \left(-\frac{1}{-b \, c + a \, d} \right) \left(-\frac{1}{-b \, c + a \, d} \right) \right) /$$

$$\left(-\frac{1}{-b \, c + a \, d} \right) \left(-\frac{1}{-b \, c + a \, d} \right) \left(-\frac{1}{-b \, c + a \, d} \right) \left(-\frac{1}{-b \, c + a \, d} \right) \left(-\frac{1}{-b \, c + a \, d} \right) \left(-\frac{1}{-b \, c + a \, d} \right) / \left(-\frac{1}{-b \, c + a \, d} \right) \left(-\frac{1}{-b \, c + a \, d} \right) \left(-\frac{1}{-b \, c + a \, d} \right) \left(-\frac{1}{-b \, c + a \, d} \right) \left(-\frac{1}{-b \, c + a \, d} \right) / \left(-\frac{1}{-b \, c$$

$$\left(-\frac{f}{-b + a \, f} + \frac{1}{a + b \, x} \right) \sqrt{\frac{\frac{-\frac{b}{b} g \, ab}{s + b} + \frac{1}{a + b \, x}}{\frac{f}{-b + a + b} - b + a + b}}} \sqrt{\frac{\left(b \, c - a \, f\right) \left(h + \frac{b \, g}{a \, b \, x} - \frac{a \, h}{a + b \, x}\right)}{b \left(-f \, g + e \, h\right)}} \right],$$

$$\left(-\frac{\left(-b \, c + a \, d\right) \left(-f \, g + e \, h\right)}{\left(-b \, e + a \, f\right) \left(-d \, g + c \, h\right)} \right] / \left(\left(b \, c - a \, d\right) \left(b \, g - a \, h\right)\right) - \frac{1}{-b \, c + a \, d}$$

$$d \, EllipticF\left[ArcSin\left[\sqrt{\frac{\left(b \, e - a \, f\right) \left(h + \frac{b \, g}{a \, b \, x} - \frac{a \, h}{a + b \, x}\right)}{b \left(-f \, g + e \, h\right)}} \right], \frac{\left(-b \, c + a \, d\right) \left(-f \, g + e \, h\right)}{\left(-b \, e + a \, f\right) \left(-d \, g + c \, h\right)} \right] \right) /$$

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

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

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

$$\left(-\left[\left(b \, d \, g \, - b \, c \, h\right) \, EllipticE\left[ArcSin\left[\sqrt{\frac{\left(b \, e \, - a \, f\right) \left(h \, + \frac{b \, g}{a \, b \, x} - \frac{a \, h}{a \, b \, x}\right)}}{b \, \left(-f \, g \, + e \, h\right)}} \right] \right)$$

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

$$\left[6\, a^3\, b\, d^2\, e\, f\, h^2\, \sqrt{ \frac{ \left(b\, c-a\, d \right)\, \left(b\, g-a\, h \right)\, \left(-\frac{d}{-b\, c+a\, d} + \frac{1}{a+b\, x} \right) }{ b\, d\, g-b\, c\, h} } } \right. \\ \left. \left(-\frac{f}{-b\, e+a\, f} + \frac{1}{a+b\, x} \right) \sqrt{ \frac{-\frac{h}{-b\, g+a\, h} + \frac{1}{a+b\, x}}{\frac{f}{-b\, e+a\, f} - \frac{h}{-b\, g+a\, h}}} } \right. \\ \left. \left(-\left[\left(b\, d\, g-b\, c\, h \right)\, EllipticE \left[ArcSin \left[\sqrt{ \frac{\left(b\, e-a\, f \right)\, \left(h + \frac{b\, g}{a+b\, x} - \frac{a\, h}{a+b\, x} \right)}{b\, \left(-f\, g+e\, h \right)}} \right], \right. \\ \left. \frac{\left(-b\, c+a\, d \right)\, \left(-f\, g+e\, h \right)}{\left(-b\, e+a\, f \right)\, \left(-d\, g+c\, h \right)} \right] \right) / \left(\left(b\, c-a\, d \right)\, \left(b\, g-a\, h \right) \right) - \frac{1}{-b\, c+a\, d} \\ d\, EllipticF \left[ArcSin \left[\sqrt{ \frac{\left(b\, e-a\, f \right)\, \left(h + \frac{b\, g}{a+b\, x} - \frac{a\, h}{a+b\, x} \right)}{b\, \left(-f\, g+e\, h \right)}} \right], \left. \frac{\left(-b\, c+a\, d \right)\, \left(-f\, g+e\, h \right)}{\left(-b\, e+a\, f \right)\, \left(-d\, g+c\, h \right)} \right] \right) \right] \\ \left[a^2\, b^2\, c^2\, f^2\, h^2\, \sqrt{ \frac{\left(b\, c-a\, d \right)\, \left(b\, g-a\, h \right)\, \left(-\frac{d}{a+b\, x} - \frac{1}{a+b\, x} \right)}}{b\, d\, g-b\, c\, h}} \right. \\ \left. \left(-\frac{f}{-b\, e+a\, f} + \frac{1}{a+b\, x} \right)\, \sqrt{ \frac{-\frac{h}{-b\, g+a\, h} + \frac{1}{a+b\, x}}{\frac{f}{-b\, e+a\, f} - \frac{1}{a-b\, x}}}} \right. \\ \left. \left(-\left[\left(b\, d\, g-b\, c\, h \right)\, EllipticE \left[ArcSin \left[\sqrt{ \frac{\left(b\, e-a\, f \right)\, \left(h + \frac{b\, g}{a+b\, x} - \frac{a\, h}{a+b\, x} \right)}{b\, \left(-f\, g+e\, h \right)}}} \right. \right], \\ \left. \frac{\left(-b\, c+a\, d \right)\, \left(-f\, g+e\, h \right)}{\left(-b\, e+a\, f \right)\, \left(-d\, g+c\, h \right)} \right] \right] \right/ \\ \left. d\, EllipticF \left[ArcSin \left[\sqrt{ \frac{\left(b\, e-a\, f \right)\, \left(h + \frac{b\, g}{a+b\, x} - \frac{a\, h}{a+b\, x} \right)}{b\, \left(-f\, g+e\, h \right)}} \right. \right], \\ \left. \frac{\left(-b\, c+a\, d \right)\, \left(-f\, g+e\, h \right)}{\left(-b\, e+a\, f \right)\, \left(-d\, g+c\, h \right)} \right] \right] \right/ \\ \left. \left(-b\, c+a\, d \right)\, \left(-f\, g+e\, h \right) \right] \right] \right/ \\ \left. \left(-b\, c+a\, d \right)\, \left(-f\, g+e\, h \right) \right] \right] \right/ \left(\left(-a\, f \right)\, \left(-a\, f \right)\, \left(-a\, f \right)\, \left(-a\, f \right)\, \left(-a\, f \right) \right) \right. \\ \left. \left(-b\, c+a\, d \right)\, \left(-f\, g+e\, h \right) \right] \right] \right/ \left(-b\, c+a\, d \right) \left(-f\, g+e\, h \right) \right] \right] \right/ \\ \left. \left(-b\, c+a\, d \right)\, \left(-d\, g+c\, h \right) \right] \right] \right/ \left(-b\, c+a\, d \right) \left(-a\, f \right) \right) \right] \right] \right.$$

$$\left(\sqrt{\frac{-\frac{f}{be+af} + \frac{1}{a-bx}}{-\frac{f}{be+af} + \frac{1}{-bg+ah}}} \sqrt{\left(d + \frac{bc-ad}{a+bx}\right) \left(f + \frac{be-af}{a+bx}\right) \left(h + \frac{bg-ah}{a+bx}\right)} - \frac{\left(bc-ad\right) \left(bg-ah\right) \left(-\frac{d}{bc+ad} + \frac{1}{a+bx}\right)}{bdg-bch} \right) - \frac{\left(bc-ad\right) \left(bg-ah\right) \left(-\frac{d}{-bc+ad} + \frac{1}{a+bx}\right)}{bdg-bch}$$

$$\left(-\frac{f}{-be+af} + \frac{1}{a+bx} \right) \sqrt{\frac{-\frac{h}{bg+ah} + \frac{1}{a+bx}}{\frac{f}{-be+af} - \frac{h}{-bg+ah}}} - \frac{ah}{bc-af} \right) - \frac{1}{b\left(-fg+eh\right)} \right] - \frac{\left(-bc+ad\right) \left(-fg+eh\right)}{\left(-be+af\right) \left(-dg+ch\right)} \right] / \left(\left(bc-ad\right) \left(bg-ah\right) \right) - \frac{1}{-bc+ad}$$

$$\frac{\left(-bc+ad\right) \left(-fg+eh\right)}{\left(-be+af\right) \left(-dg+ch\right)} \right] / \left(\left(bc-af\right) \left(h + \frac{bg}{a+bx} - \frac{ah}{a+bx}\right)}{b\left(-fg+eh\right)} \right]$$

$$\sqrt{\frac{-\frac{f}{-be+af} + \frac{1}{a+bx}}{-be+af} + \frac{h}{-bg+ah}} \sqrt{\left(d + \frac{bc-ad}{a+bx}\right) \left(f + \frac{be-af}{a+bx}\right) \left(h + \frac{bg-ah}{a+bx}\right)} + \frac{\left(-bc+ad\right) \left(-fg+eh\right)}{bdg-bch}$$

$$\sqrt{\frac{-\frac{f}{-be+af} + \frac{1}{a+bx}}{-be+af} + \frac{h}{-be+af} - \frac{h}{-be+af} - \frac{h}{-be+af}}}$$

$$\sqrt{\frac{\left(bc-ad\right) \left(bg-ah\right) \left(-\frac{d}{-bc+ad} + \frac{1}{a+bx}\right)}{bdg-bch}}$$

$$-\left(-\frac{f}{-be+af} + \frac{1}{a+bx} \right) \sqrt{\frac{-\frac{h}{-bg+ah} + \frac{1}{a+bx}}{-be+af} - \frac{h}{-bg+ah} - \frac{ah}{a+bx}}}{b\left(-bg-ah\right) \left(-fg+eh\right)}} \right] / \left(\left(bc-af\right) \left(h + \frac{bg}{a+bx} - \frac{ah}{a+bx}\right)}{b\left(-fg+eh\right)} \right] ,$$

$$\frac{\left(-bc+ad\right) \left(-fg+eh\right)}{\left(-bc+ad\right) \left(-dg+ch\right)} \right] / \left(\left(bc-ad\right) \left(bg-ah\right) \left(-\frac{1}{-bc+ad} - \frac{1}{-bc+ad}\right)$$

$$\begin{split} & \text{dEllipticF} \Big[\text{ArcSin} \Big[\sqrt{\frac{\left(b \, e \, - a \, f \right) \, \left(h \, + \, \frac{b \, g}{a \, b \, N} \, - \, \frac{a \, b \, N}{a \, b \, N} \, \right)}{\left(- \, b \, e \, + \, a \, f \, \right) \, \left(- \, d \, g \, + \, e \, h \right)} \, \left[\right] / \\ & \sqrt{\frac{-\frac{f}{-b \, e \, a \, f} \, + \, \frac{1}{a \, b \, N}}{-\frac{f}{-b \, e \, a \, f} \, + \, \frac{1}{b \, g \, - \, a \, h}}} \, \sqrt{\left(d \, + \, \frac{b \, c \, - \, a \, d}{a \, b \, N} \, \right) \left(f \, + \, \frac{b \, e \, - \, a \, f}{a \, + \, b \, N} \, \right) \left(h \, + \, \frac{b \, g \, - \, a \, h}{a \, + \, b \, N} \, \right)} \, + \\ & 2 \, b^3 \, c \, d \, e \, f \, g \, h \, \sqrt{\frac{-\frac{d}{-b \, e \, a \, d} \, + \, \frac{1}{a \, b \, N}}{-\frac{d}{-b \, e \, a \, d} \, + \, \frac{1}{a \, b \, N}}} \, \sqrt{\frac{-\frac{f}{-b \, e \, a \, f} \, + \, \frac{1}{a \, b \, N}}{-\frac{f}{-b \, e \, a \, f} \, + \, \frac{b \, h}{a \, b \, N}}} \, \left(-\frac{h}{-b \, g \, + \, a \, h} \, + \, \frac{1}{a \, + \, b \, N}} \right) \\ & EllipticF \left[\text{ArcSin} \left[\sqrt{\frac{\left(-b \, e \, + \, a \, f \right) \, \left(-b \, e \, - \, a \, f \right)}{b \, \left(-f \, g \, + \, e \, h \right)}} \, \sqrt{\left(d \, + \, \frac{b \, c \, - \, a \, d}{a \, + \, b \, N} \, + \, \frac{h}{a \, + \, b \, N}} \right)} \, \right], \, \frac{\left(-b \, c \, + \, a \, d \right) \, \left(-f \, g \, + \, e \, h \right)}{\left(-b \, e \, - \, a \, f \right) \, \left(-b \, e \, - \, a \, f \right) \, \left(-b \, e \, - \, a \, f \right)} \, \left(-b \, e \, - \, a \, f \right)} \right] / \\ & \sqrt{\frac{-\frac{b}{-b} \, a \, h}{-\frac{b}{-b} \, a \, d}} \, \sqrt{\left(d \, + \, \frac{b \, c \, - \, a \, d}{a \, + \, b \, N} \, \right) \, \left(f \, + \, \frac{b \, e \, - \, a \, f}{a \, + \, b \, N} \, + \, \frac{b \, g \, - \, a \, h}{a \, + \, b \, N}} \right)} \right) - \\ & 2 \, a \, b^2 \, d^2 \, e \, f \, g \, h \, \sqrt{\frac{-\frac{d}{a} \, + \, \frac{1}{a \, + \, b \, N}}{-\frac{d}{-b} \, c \, a \, d} \, + \, \frac{-\frac{f}{a} \, - \, \frac{1}{a \, + \, b \, N}} \, \sqrt{\frac{f}{-b \, e \, a \, f} \, + \, \frac{b \, g \, - \, a \, h}{-b \, e \, a \, f} \, + \, \frac{1}{a \, + \, b \, N}} \right)}} \right) - \\ & EllipticF \left[\text{ArcSin} \left[\sqrt{\frac{\left(-b \, e \, - \, a \, d \, + \, \frac{1}{a \, + \, b \, N}} \, \sqrt{\left(d \, + \, \frac{b \, c \, - \, a \, d}{a \, + \, b \, N} \, \right) \left(f \, + \, \frac{b \, e \, - \, a \, f}{-b \, e \, a \, f} \, + \, \frac{b \, g \, - \, a \, h}{-b \, e \, a \, f} \, \right) \, \left(-b \, c \, + \, a \, d \right) \, \left(-f \, g \, + \, e \, h \right)} \right] \right) } \\ & \sqrt{\frac{\left(-b \, e \, - \, a \, f \, - \, \frac{1}{a \, - \, b \, c \, a \, d} \, + \, \frac{1}{a \, - \, b \, c \, a \, d} \, + \, \frac{1}{a \, - \, b \, c \, a \, d} \, \right) \, \left(-b \, e \,$$

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

$$EllipticF\left[ArcSin\left[\sqrt{\frac{\left(-b e + a f\right)\left(-h - \frac{b g}{a + b x} + \frac{a h}{a + b x}\right)}{b\left(-f g + e h\right)}}\right], \, \frac{\left(-b c + a d\right)\left(-f g + e h\right)}{\left(-b e + a f\right)\left(-d g + c h\right)}\right] \right]$$

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

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

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

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

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

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

$$\left(-\frac{h}{-\frac$$

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

$$\left[b^2 \, d^2 \, e^2 \, h \left(-b \, g + a \, h \right) \left(-\frac{f}{-b \, e + a \, f} + \frac{h}{-b \, g + a \, h} \right) \sqrt{\frac{-\frac{d}{-b \, e + a \, d} + \frac{1}{a \cdot b \, x}}{-\frac{d}{-b \, e + a \, f} + \frac{h}{-b \, g + a \, h}}} \right]^2 } \\ - \frac{\left(-\frac{f}{-b \, e + a \, f} + \frac{1}{a \cdot b \, x} \right) \left(-\frac{h}{-b \, g + a \, h} + \frac{1}{a \cdot b \, x} \right)}{\left(-\frac{f}{-b \, e + a \, f} + \frac{h}{-b \, g + a \, h} \right)^2} \\ - \frac{\left(-\frac{f}{-b \, e + a \, f} + \frac{1}{a \cdot b \, x} \right) \left(-\frac{h}{-b \, e + a \, f} + \frac{1}{a \cdot b \, x} \right)}{b \left(-f \, g + e \, h \right)} \right] , \quad \frac{\left(-b \, c + a \, d \right) \left(-f \, g + e \, h}{\left(-b \, e + a \, f \right) \left(-d \, g + c \, h \right)} \right]$$

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

$$- \frac{\left(-\frac{f}{-b \, e + a \, f} + \frac{h}{a \cdot b \, x} \right) \left(-\frac{h}{-b \, e + a \, f} + \frac{1}{a \cdot b \, x} \right)}{b \left(-f \, g + e \, h \right)} \right] , \quad \frac{\left(-b \, c + a \, d \right) \left(-f \, g + e \, h}{\left(-b \, e + a \, f \right) \left(-d \, g + c \, h} \right)} \right]$$

$$- \frac{\left(-\frac{f}{-b \, e + a \, f} \right) \left(-\frac{h}{a + b \, x} + \frac{a \, h}{a \cdot b \, x} \right)}{b \left(-f \, g + e \, h \right)} \right] , \quad \frac{\left(-b \, c + a \, d \right) \left(-f \, g + e \, h}{\left(-b \, e + a \, f \right) \left(-d \, g + c \, h} \right)} \right]$$

$$- \frac{\left(-\frac{f}{-b \, e + a \, f} \right) \left(-\frac{h}{a + b \, x} + \frac{a \, h}{a \cdot b \, x} \right)}{b \left(-f \, g + e \, h \right)} \right) , \quad \frac{\left(-b \, c + a \, d \right) \left(-f \, g + e \, h}{\left(-b \, e + a \, f \right) \left(-d \, g + c \, h} \right)} \right]$$

$$- \frac{\left(-\frac{f}{-b \, e + a \, f} \right) \left(-\frac{h}{-b \, e + a \, f} + \frac{h}{-b \, g + a \, h} \right)}{b \left(-\frac{h}{-b \, e + a \, f} + \frac{h}{-b \, g + a \, h} \right)} \right)}$$

$$- \frac{\left(-\frac{f}{-b \, e + a \, f} \right) \left(-\frac{h}{-b \, e + a \, f} + \frac{h}{-b \, g + a \, h} \right)}{\left(-\frac{h}{-b \, e + a \, f} + \frac{h}{-b \, g + a \, h} \right)}} \right)}{b \left(-\frac{f}{-b \, e + a \, f} + \frac{h}{-b \, e + a \, f} \right)} \left(-\frac{h}{-b \, e + a \, f} + \frac{h}{-b \, e + a \, f} \right)}{\left(-\frac{h}$$

$$\begin{split} & \text{ArcSin} \Big[\sqrt{\frac{\left(-b\,e + a\,f \right)\,\left(-h - \frac{b\,g}{a + b\,x} + \frac{a\,h}{a + b\,x} \right)}{b\,\left(-f\,g + e\,h \right)}} \,\, \Big] \,, \, \frac{\left(-b\,c + a\,d \right)\,\left(-f\,g + e\,h \right)}{\left(-b\,e + a\,f \right)\,\left(-d\,g + c\,h \right)} \,\Big] \bigg] \bigg/ \\ & \left[\sqrt{\left(d + \frac{b\,c - a\,d}{a + b\,x} \right)\,\left(f + \frac{b\,e - a\,f}{a + b\,x} \right)\,\left(h + \frac{b\,g - a\,h}{a + b\,x} \right)} \,\, + \\ & \left[3\,a^2\,d^2\,f^2\,h\,\left(-b\,g + a\,h \right)\,\left(-\frac{f}{-b\,e + a\,f} + \frac{h}{-b\,g + a\,h} \right)\,\sqrt{\frac{-\frac{d}{-b\,c + a\,d} + \frac{1}{a + b\,x}}{-\frac{d}{-b\,c + a\,d}} + \frac{h}{-b\,g + a\,h}}} \right. \\ & \sqrt{-\frac{\left(-\frac{f}{-b\,e + a\,f} + \frac{1}{a + b\,x} \right)\,\left(-\frac{h}{-b\,g + a\,h} + \frac{1}{a + b\,x} \right)}{\left(-\frac{f}{-b\,e + a\,f} + \frac{h}{-b\,g + a\,h} \right)^2}} \,\, \text{EllipticPi} \Big[-\frac{-b\,f\,g + b\,e\,h}{\left(-b\,e + a\,f \right)\,\left(-b\,e + a\,f \right)} \,, \\ & \sqrt{-\frac{f}{-b\,e + a\,f} + \frac{h}{-b\,g + a\,h}} \,\, \frac{1}{a + b\,x} \,\, \frac{1}{a + b\,x} \,\, \frac{1}{a + b\,x} \,\, \frac{1}{a + b\,x}} \,\, \frac{\left(-b\,c + a\,d \right)\,\left(-f\,g + e\,h \right)}{\left(-b\,e + a\,f \right)\,\left(-d\,g + c\,h \right)} \,\, \Big] \bigg/ \\ & \sqrt{-\frac{d}{a + b\,x}\,\left(d + \frac{b\,c - a\,d}{a + b\,x} \right)\,\left(f + \frac{b\,e - a\,f}{a + b\,x} \right)\,\left(h + \frac{b\,g - a\,h}{a + b\,x} \right)} \,\, \Big] \,, \\ & \sqrt{-\frac{d}{a + b\,x}\,\left(d + \frac{b\,c - a\,d}{a + b\,x} \right)\,\left(f + \frac{b\,e - a\,f}{a + b\,x} \right)\,\left(h + \frac{b\,g - a\,h}{a + b\,x} \right)} \,\, \Big] \,, \\ & \sqrt{-\frac{d}{a + b\,x}\,\left(d + \frac{d\,b\,c - a\,d}{a + b\,x} \right)\,\left(f + \frac{d\,b\,c - a\,f}{a + b\,x} \right)\,\left(h + \frac{d\,b\,c - a\,h}{a + b\,x} \right)} \,\, \Big] \,, \\ & \sqrt{-\frac{d}{a + b\,x}\,\left(d + \frac{d\,b\,c - a\,d}{a + b\,x} \right)\,\left(f + \frac{d\,b\,c - a\,f}{a + b\,x} \right)\,\left(h + \frac{d\,b\,c - a\,h}{a + b\,x} \right)} \,\, \Big] \,, \\ & \sqrt{-\frac{d}{a + b\,c - a\,d}\,\left(d + \frac{d\,c - a\,d}{a + b\,x} \right)\,\left(f + \frac{d\,c - a\,f}{a + b\,x} \right)\,\left(h + \frac{d\,c - a\,d}{a + b\,x} \right)} \,\, \Big] \,, \\ & \sqrt{-\frac{d}{a + b\,c - a\,d}\,\left(d + \frac{d\,c - a\,d}{a + b\,x} \right)\,\left(d + \frac{d\,c - a\,d}{a + b\,x} \right)\,\left(d + \frac{d\,c - a\,d}{a + b\,x} \right)} \,\, \Big] \,, \\ & \sqrt{-\frac{d}{a + b\,c - a\,d}\,\left(d + \frac{d\,c - a\,d}{a + b\,x} \right)\,\left(d + \frac{d\,c - a\,d}{a + b\,x} \right)\,\left(d + \frac{d\,c - a\,d}{a + b\,x} \right)} \,\, \Big] \,, \\ & \sqrt{-\frac{d}{a + b\,c - a\,d}\,\left(d + \frac{d\,c - a\,d}{a + b\,x} \right)\,\left(d + \frac{d\,c - a\,d}{a + b\,x} \right)\,\left(d + \frac{d\,c - a\,d}{a + b\,x} \right)} \,\, \Big] \,, \\ & \sqrt{-\frac{d}{a + a\,b\,c - a\,d}\,\left(d + \frac{d\,c - a\,d}{a + b\,x} \right)\,\left(d + \frac{d\,c - a\,d}{a + b\,x} \right)\,\left(d + \frac{d\,c -$$

Problem 12: Result more than twice size of optimal antiderivative.

$$\int \frac{\sqrt{\,a+b\,x\,}\,\,\left(\text{d}\,\text{e}+\text{c}\,\text{f}+2\,\text{d}\,\text{f}\,x\right)}{\sqrt{\,c+d\,x\,}\,\,\sqrt{\,e+f\,x\,}\,\,\sqrt{g+h\,x}}\,\,\text{d}\,x$$

Optimal (type 4, 472 leaves, 5 steps):

$$\begin{split} &\frac{2\,b\,\sqrt{c+d\,x}\,\,\sqrt{e+f\,x}\,\,\sqrt{g+h\,x}}{h\,\sqrt{a+b\,x}} - \\ &\frac{\left(2\,\sqrt{b\,g-a\,h}\,\,\sqrt{f\,g-e\,h}\,\,\sqrt{c+d\,x}\,\,\sqrt{-\frac{\left(b\,e-a\,f\right)\,\left(g+h\,x\right)}{\left(f\,g-e\,h\right)\,\left(a+b\,x\right)}}}{\left(f\,g-e\,h\right)\,\left(a+b\,x\right)} \; \text{EllipticE}\left[\text{ArcSin}\left[\frac{\sqrt{b\,g-a\,h}\,\,\sqrt{e+f\,x}}{\sqrt{f\,g-e\,h}\,\,\sqrt{a+b\,x}}\right]\right], \\ &-\frac{\left(b\,c-a\,d\right)\,\left(f\,g-e\,h\right)}{\left(d\,e-c\,f\right)\,\left(b\,g-a\,h\right)}\right] \bigg/ \left(h\,\sqrt{\frac{\left(b\,e-a\,f\right)\,\left(c+d\,x\right)}{\left(d\,e-c\,f\right)\,\left(a+b\,x\right)}}\,\,\sqrt{g+h\,x}} - \\ &\left(2\,d\,\left(b\,g-a\,h\right)^{3/2}\,\sqrt{\frac{\left(f\,g-e\,h\right)\,\left(a+b\,x\right)}{\left(b\,g-a\,h\right)\,\left(e+f\,x\right)}}\,\,\sqrt{\frac{\left(f\,g-e\,h\right)\,\left(c+d\,x\right)}{\left(d\,g-c\,h\right)\,\left(e+f\,x\right)}}\,\,\left(e+f\,x\right) \; \text{EllipticPi}\left[\frac{f\,\left(b\,g-a\,h\right)}{\left(b\,e-a\,f\right)\,h}, \\ &\text{ArcSin}\left[\frac{\sqrt{b\,e-a\,f}\,\,\sqrt{g+h\,x}}{\sqrt{b\,g-a\,h}\,\,\sqrt{e+f\,x}}\right], \; \frac{\left(d\,e-c\,f\right)\,\left(b\,g-a\,h\right)}{\left(b\,e-a\,f\right)\,\left(d\,g-c\,h\right)} \bigg] \bigg/ \left(\sqrt{b\,e-a\,f}\,\,h^2\,\sqrt{a+b\,x}\,\,\sqrt{c+d\,x}\right) \end{split}$$

Result (type 4, 6583 leaves):

$$\begin{split} & -\frac{1}{d} \, 2 \left[-\left[\left((c + d \, x) \right)^{3/2} \left(f + \frac{d \, e}{c + d \, x} - \frac{c \, f}{c + d \, x} \right) \left(h + \frac{d \, g}{c + d \, x} - \frac{c \, h}{c + d \, x} \right) \sqrt{a + \frac{\left(c + d \, x \right) \left(b - \frac{b \, c}{c + d \, x} \right)}{d}} \right] \right] \right. \\ & \left[h \, \sqrt{e + \frac{\left(c + d \, x \right) \left(f - \frac{c \, f}{c + d \, x} \right)}{d}} \, \sqrt{g + \frac{\left(c + d \, x \right) \left(h - \frac{c \, h}{c + d \, x} \right)}{d}} \right] - \left[f \left(b \, g - a \, h \right) \left(d \, g - c \, h \right)^2 \right. \\ & \left. \sqrt{c + d \, x} \, \sqrt{\left[\left(b - \frac{b \, c}{c + d \, x} + \frac{a \, d}{c + d \, x} \right) \left(f + \frac{d \, e}{c + d \, x} - \frac{c \, f}{c + d \, x} \right) \left(h + \frac{d \, g}{c + d \, x} - \frac{c \, h}{c + d \, x} \right) \right)} \right. \\ & \sqrt{a + \frac{\left(c + d \, x \right) \left(b - \frac{b \, c}{c + d \, x} \right)}{d}} \, \left[\left(d \, e \, \sqrt{-\frac{\left(b \, c - a \, d \right) \left(-d \, g + c \, h \right) \left(-\frac{b}{b \, c - a \, d} + \frac{1}{c + d \, x} \right)}} \right. \\ & - \frac{\left(b \, c - a \, d \right) \left(-d \, g + c \, h \right)}{-d \, g + c \, f} - \frac{h}{-d \, g + c \, h}} \\ & \left. \left(\left(-b \, d \, g + a \, d \, h \right) \, EllipticE \left[ArcSin \left[\sqrt{\frac{\left(d \, e - c \, f \right) \left(h + \frac{d \, g}{c + d \, x} - \frac{c \, h}{c + d \, x} \right)}}{d \left(-f \, g + e \, h \right)}} \right] \right] \\ & \left. - \frac{\left(b \, c - a \, d \right) \left(-f \, g + e \, h \right)}{\left(-d \, e + c \, f \right) \left(-b \, g + a \, d \, h \right)} \right] \right] \right. \\ & \left. \left(\left(b \, c - a \, d \right) \left(-d \, g + c \, h \right) \right] - \frac{1}{b \, c - a \, d} \, b \, EllipticF \left[\left(b \, c - a \, d \right) \left(-d \, g + c \, h \right) \right) - \frac{1}{b \, c - a \, d} \, b \, EllipticF \left[\left(b \, c - a \, d \right) \left(-d \, g + c \, h \right) \right] \right] \right. \\ & \left. \left(\left(b \, c - a \, d \right) \left(-d \, g + c \, h \right) \right] \right] \right. \\ & \left. \left(\left(b \, c - a \, d \right) \left(-d \, g + c \, h \right) \right] \right] \right. \\ & \left. \left(\left(b \, c - a \, d \right) \left(-d \, g + c \, h \right) \right] \right] \right. \\ & \left. \left(\left(b \, c - a \, d \right) \left(-d \, g + c \, h \right) \right] \right] \right. \\ & \left. \left(\left(b \, c - a \, d \right) \left(-d \, g + c \, h \right) \right) \right] \right. \\ & \left. \left(\left(b \, c - a \, d \right) \left(-d \, g + c \, h \right) \right] \right] \right. \\ & \left. \left(\left(b \, c - a \, d \right) \left(-d \, g + c \, h \right) \right] \right] \right. \\ & \left. \left(\left(b \, c - a \, d \right) \left(-d \, g + c \, h \right) \right] \right] \right. \\ & \left. \left(\left(b \, c - a \, d \right) \left(-d \, g + c \, h \right) \right] \right] \right.$$

$$\begin{split} & \text{ArcSin}\Big[\sqrt{\frac{\left(de-c\,f\right)\left(h+\frac{dg}{c+dx}-\frac{ch}{c+dx}\right)}{d\left(-f\,g+e\,h\right)}}\,\Big], \frac{\left(b\,c-a\,d\right)\left(-f\,g+e\,h\right)}{\left(-d\,e+c\,f\right)\left(-b\,g+a\,h\right)}\,\Big] \bigg) \bigg] \\ & \left(\sqrt{\frac{-\frac{f}{-de+c\,f}+\frac{1}{c+dx}}{-\frac{dg+c\,h}{-dg+c\,h}}}\,\sqrt{\left(b+\frac{-b\,c+a\,d}{c+dx}\right)\left(f+\frac{de-c\,f}{c+dx}\right)\left(h+\frac{d\,g-c\,h}{c+dx}\right)}\,-\frac{\left(b\,c-a\,d\right)\left(-d\,g+c\,h\right)\left(-\frac{b}{b\,c-a\,d}+\frac{1}{c-dx}\right)}{-b\,d\,g+a\,d\,h} \right] \\ & \left(-\frac{f}{-d\,e+c\,f}+\frac{1}{c+d\,x}\right)\sqrt{\frac{-\frac{h}{-dg+c\,h}+\frac{1}{c+dx}}{-\frac{dg+c\,h}{-dg+c\,h}}} \\ & \left(\left(-b\,d\,g+a\,d\,h\right)\,\text{EllipticE}\left[\text{ArcSin}\left[\sqrt{\frac{\left(de-c\,f\right)\left(h+\frac{dg}{-c\,dx}-\frac{ch}{c+dx}\right)}{d\left(-f\,g+e\,h\right)}}\,\right], \\ & \frac{\left(b\,c-a\,d\right)\left(-f\,g+e\,h\right)}{\left(-d\,e+c\,f\right)\left(-b\,g+a\,h\right)}\,\right] \right] \bigg/ \left(\left(b\,c-a\,d\right)\left(-d\,g+c\,h\right)\right) - \frac{1}{b\,c-a\,d}\,b\,\text{EllipticF}\left[\\ & \text{ArcSin}\left[\sqrt{\frac{\left(de-c\,f\right)\left(h+\frac{dg}{-c\,dx}-\frac{ch}{c+dx}\right)}{d\left(-f\,g+e\,h\right)}}\,\right], \\ & \frac{\left(-\frac{f}{-\frac{de+c\,f}{+c+dx}}-\frac{h}{c-g+c\,h}\right)}{d\left(-f\,g+e\,h\right)} \right], \\ & \frac{\left(\frac{f}{-\frac{de+c\,f}{+c+dx}}-\frac{h}{c-g+c\,h}\right)}{\left(-\frac{f}{-\frac{de+c\,f}{+c+dx}}-\frac{h}{c-g+c\,h}\right)} \left(\frac{h+\frac{d\,g-c\,h}{c+d\,x}\right) \left(h+\frac{d\,g-c\,h}{c+d\,x}\right)}{\left(-d\,e+c\,f\right)\left(-b\,g+a\,h\right)} \right] \bigg) \\ & \\ & \text{EllipticF}\left[\text{ArcSin}\left[\sqrt{\frac{\left(-d\,e+c\,f\right)\left(-h-\frac{d\,g}{-c\,f}+\frac{ch}{c+d\,x}\right)}{d\left(-f\,g+e\,h\right)}}\,\right], \\ & \frac{\left(-d\,e+c\,f\right)\left(-b\,g+a\,h\right)}{\left(-d\,e+c\,f\right)\left(-b\,g+a\,h\right)}} \right] \bigg) \bigg/ \\ & \\ & \frac{\left(-\frac{h}{-\frac{d\,g+c\,h}{+c-d\,x}}-\frac{h}{c-h}}{h}, \\ & \sqrt{\frac{\left(-d\,e+c\,f\right)\left(-h-\frac{d\,g}{-c\,d\,x}+\frac{ch}{c+d\,x}\right)}{d\left(-f\,g+e\,h\right)}}} \,\right], \\ & \frac{\left(-d\,e+c\,f\right)\left(-b\,g+a\,h\right)}{\left(-d\,e+c\,f\right)\left(-b\,g+a\,h\right)}} \bigg] \bigg) \bigg/ \\ & \\ & \frac{\left(-\frac{h}{$$

$$\left(h^2 \left(-fg + eh \right) \left(b - \frac{bc}{c + dx} + \frac{ad}{c + dx} \right) \sqrt{e + \frac{\left(c + dx \right) \left(f - \frac{cf}{c + dx} \right)}{d}} \right)$$

$$\sqrt{g + \frac{\left(c + dx \right) \left(h - \frac{ch}{c + dx} \right)}{d}} +$$

$$\left(\left(be - af \right) \left(de - cf \right) \left(dg - ch \right) \sqrt{c + dx} \right)$$

$$\sqrt{\left(\left(b - \frac{bc}{c + dx} + \frac{ad}{c + dx} \right) \left(f + \frac{de}{c + dx} - \frac{cf}{c + dx} \right) \left(h + \frac{dg}{c + dx} - \frac{ch}{c + dx} \right) \right) }$$

$$\sqrt{a + \frac{\left(c + dx \right) \left(b - \frac{bc}{c + dx} \right)}{d}}$$

$$\left(\left| dg \sqrt{-\frac{\left(bc - ad \right) \left(-dg + ch \right) \left(-\frac{b}{bc - ad} + \frac{1}{c + dx} \right)}{bdg + adh}} \right|$$

$$\left(\left| \left(-bdg + adh \right) \right| \right) \sqrt{\frac{-\frac{h}{dg + ch} + \frac{1}{c + dx}}{-\frac{h}{de + cf} - \frac{h}{-dg + ch}}} \right|$$

$$\left(\left(-bdg + adh \right) \right) \left[\left(\left(bc - ad \right) \left(-fg + eh \right) \right) \right] / \left(\left(bc - ad \right) \left(-dg + ch \right) \right) - \frac{1}{bc - ad} b \left[llipticF \right]$$

$$ArcSin \left[\sqrt{\frac{\left(de - cf \right) \left(h + \frac{dg}{c - dx} - \frac{ch}{c + dx} \right)}{d \left(-fg + eh \right)}} \right] / \left(\left(-de + cf \right) \left(-bg + ah \right) \right) \right] /$$

$$\sqrt{\frac{-\frac{f}{de + cf} + \frac{1}{c + dx}}{-\frac{f}{de + cf} + \frac{h}{c + cdx}}} \sqrt{\left(b + \frac{-bc + ad}{c + dx} \right) \left(f + \frac{de - cf}{c + dx} \right) \left(h + \frac{dg - ch}{c + dx} \right)} -$$

$$\left(ch_{\sqrt{-}} \frac{\left(bc - ad \right) \left(-dg + ch \right) \left(-\frac{b}{bc - ad} + \frac{1}{c + dx} \right)}{-b \, dg + a \, dh} \right) \\ -\frac{f}{-dg + cf} + \frac{1}{c + dx} \right) \sqrt{\frac{-\frac{h}{dg + ch} + \frac{1}{c + dx}}{-\frac{dg + ch}{-dg + cf} - \frac{h}{-dg + ch}}}{d \left(-b \, dg + ad \, h \right)} \left[\left(-b \, dg + ad \, h \right) \, EllipticE \left[ArcSin \left[\sqrt{\frac{\left(de - cf \right) \left(h + \frac{dg}{c + dx} - \frac{ch}{c + dx} \right)}{d \left(-fg + eh \right)}} \right] \right) / \left(\left(bc - ad \right) \left(-dg + ch \right) \right) - \frac{1}{bc - ad} b \, EllipticF \left[ArcSin \left[\sqrt{\frac{\left(de - cf \right) \left(h + \frac{dg}{c + dx} - \frac{ch}{c + dx} \right)}{d \left(fg + eh \right)}} \right] \right) / \left(\left(bc - ad \right) \left(-fg + eh \right) \right) \right] \right) / \left(\sqrt{\frac{-\frac{f}{dg + cf} + \frac{1}{c + dx}}{-\frac{f}{dc + cf} + \frac{h}{-dg + ch}}} \sqrt{\frac{\left(h + \frac{-bc + ad}{c + dx} \right) \left(f + \frac{de - cf}{c + dx} \right) \left(h + \frac{dg - ch}{c + dx} \right)}{\left(-dg + ch \right)}} \right) + \left(h \sqrt{\frac{-\frac{b}{dg + ch} + \frac{1}{c + dx}}{-\frac{h}{dg + ch}}} \sqrt{\frac{-\frac{f}{-de + cf} + \frac{1}{c + dx}}{-\frac{f}{de + cf} + \frac{h}{-dg + ch}}}{d \left(-fg + eh \right)}} \right) \sqrt{\frac{\left(bc - ad \right) \left(-fg + eh \right)}{\left(-de + cf \right) \left(-h - \frac{dg}{c + ch} + \frac{ch}{c + dx} \right)}}{d \left(-fg + eh \right)}} \right) / \left(h - \frac{dg - ch}{c + dx} \right) \right) / \left(h - \frac{dg - ch}{c + dx} \right) \right) / \left(h - \frac{dg - ch}{c + dx} \right) / \left(h - \frac{dg - ch}{c + dx} \right) \right) / \left(h - \frac{dg - ch}{c + dx} \right) / \left(h -$$

$$\frac{1}{h^2 \left(b - \frac{bc}{c \cdot dx} + \frac{ad}{c \cdot dx}\right)} \sqrt{e + \frac{(c \cdot dx) \left[f - \frac{ct}{c \cdot dx}\right]}{d}} \sqrt{g + \frac{(c \cdot dx) \left[h - \frac{ch}{c \cdot dx}\right]}{d}}$$

$$\frac{d}{d} \left(bg - ah \right) \sqrt{c \cdot dx}$$

$$\sqrt{\left(\left(b - \frac{bc}{c \cdot dx} + \frac{ad}{c \cdot dx}\right) \left(f + \frac{de}{c \cdot dx} - \frac{cf}{c \cdot dx}\right) \left(h + \frac{dg}{c \cdot dx} - \frac{ch}{c \cdot dx}\right) \right)}$$

$$\sqrt{a + \frac{(c \cdot dx) \left(b - \frac{bc}{c \cdot dx}\right)}{d}}$$

$$\sqrt{a + \frac{(c \cdot dx) \left(b - \frac{bc}{c \cdot dx}\right)}{d}}$$

$$- \frac{db \cdot c - ad \left(-dg + ch\right) \left(-\frac{b}{b \cdot c - ad} + \frac{1}{c \cdot dx}\right)}{-bdg + adh}$$

$$\left(\left(-b \cdot dg + adh\right) \text{ EllipticE} \left[ArcSin \left[\sqrt{\frac{(de - cf) \left(h + \frac{dg}{c \cdot dx} - \frac{ch}{c \cdot dx}\right)}{d \left(-fg + eh\right)}} \right],$$

$$\frac{\left(bc - ad\right) \left(-fg + eh\right)}{\left(-de + cf\right) \left(-bg + ah\right)} \right] \right] / \left(\left(bc - ad\right) \left(-dg + ch\right)\right) - \frac{1}{bc - ad} b \text{ EllipticF}$$

$$ArcSin \left[\sqrt{\frac{(de - cf) \left(h + \frac{dg}{c \cdot dx} - \frac{ch}{c \cdot dx}\right)}{d \left(-fg + eh\right)}} \right],$$

$$\sqrt{bc - ad} \left(-fg + eh\right)$$

$$\sqrt{-\frac{f}{-de \cdot cf} + \frac{h}{c \cdot dx \cdot c}},$$

$$\sqrt{bc - ad} \left(-fg + eh\right)$$

$$- \frac{f}{-de \cdot cf} + \frac{h}{-de \cdot cf},$$

$$- \frac{f}{-de \cdot cf} + \frac{h}{-dg \cdot ch},$$

$$- bdg + adh$$

$$\left(-\frac{f}{-de \cdot cf} + \frac{1}{c \cdot dx}\right) \left(-\frac{h}{bc - ad} + \frac{1}{c \cdot dx}\right)}{-bdg + adh}$$

$$\left(-\frac{f}{-de \cdot cf} + \frac{1}{c \cdot dx}\right) \sqrt{\frac{-\frac{h}{-dg \cdot ch} + \frac{1}{c \cdot dx}}{\frac{f}{-de \cdot cf} - \frac{h}{de \cdot ch}}}{-de \cdot cf} - \frac{h}{de \cdot ch}}$$

$$\left(\left(-b \, d\, g + a \, d\, h \right) \, \text{EllipticE} \left[\text{ArcSin} \left[\sqrt{\frac{\left(d = c\, f \right) \left(h + \frac{d\, g}{-c\, d\, x} - \frac{c\, h}{c\, d\, x}}{d\, \left(-f\, g + e\, h \right)}} \, \right], \\ \frac{\left(b\, c - a\, d \right) \, \left(-f\, g + e\, h \right)}{\left(-d\, e + c\, f \right) \, \left(-b\, g + a\, h \right)} \right] \right/ \left(\left(b\, c - a\, d \right) \, \left(-d\, g + c\, h \right) \right) - \frac{1}{b\, c - a\, d} \, b \, \text{EllipticF} \left[ArcSin} \left[\sqrt{\frac{\left(d\, e - c\, f \right) \, \left(h + \frac{d\, g}{-c\, d\, x} - \frac{c\, h}{c\, d\, x}}{d\, \left(-f\, g + e\, h \right)}} \, \right] \right) / \left(\left(b\, c - a\, d \right) \, \left(-f\, g + e\, h \right)} \right) \right] \right) \right/ \\ \left[\sqrt{\frac{-\frac{f}{-d\, e + c\, f} + \frac{1}{c\, d\, g\, c\, h}}{d\, \left(-f\, g + e\, h \right)}} \, \sqrt{\left(b + \frac{-b\, c\, + a\, d}{c\, d\, x} \right) \left(f + \frac{d\, e - c\, f}{c\, d\, x} \right) \left(h + \frac{d\, g\, - c\, h}{c\, d\, x} \right)} \right] \right)} \right] \\ \left[\sqrt{\frac{d\, e\, h}{-d\, e + c\, f} + \frac{1}{c\, d\, g\, c\, h}} \, \sqrt{\left(b\, c - a\, d \right) \, \left(-\frac{b}{d\, g\, c\, h} + \frac{1}{c\, d\, g\, c\, h}} \right)} - \frac{\left(b\, c\, a\, d\, h \right) \, \left(-d\, g\, c\, h \right) \left(-\frac{b}{d\, g\, c\, h} + \frac{1}{c\, d\, g\, c\, h}} \right)}{d\, \left(-f\, g\, c\, h \right)} \right) - \frac{1}{d\, c\, c\, f\, h} \, \frac{\left(d\, e\, c\, c\, f \right) \, \left(h + \frac{d\, g\, - c\, h}{c\, d\, g\, c\, h} \right)}{d\, \left(-f\, g\, c\, h \right)} \right]} \right] \\ \left[\sqrt{\frac{\left(d\, e\, c\, c\, f \right) \, \left(h + \frac{d\, g\, c\, c\, h}{c\, c\, d\, x} - \frac{h}{c\, d\, g\, c\, h}} \right)}{d\, \left(-f\, g\, c\, h \right)}} \right) - \frac{1}{d\, c\, c\, f\, g\, c\, a\, d} \, b \, \text{EllipticF}} \right]} \\ \left[\sqrt{\frac{\left(d\, e\, c\, c\, f \right) \, \left(h + \frac{d\, g\, c\, c\, h}{c\, c\, d\, x} - \frac{h}{c\, d\, g\, c\, c\, h}} \right)}{d\, \left(-f\, g\, c\, h \right)}} \right] \right] \right] \right/ \left(\left(b\, c\, -a\, d \right) \, \left(-d\, g\, c\, c\, h \right) \right) - \frac{1}{b\, c\, -a\, d} \, b \, \text{EllipticF}} \right]} \\ \left[\sqrt{\frac{\left(d\, e\, c\, c\, f \right) \, \left(h + \frac{d\, g\, c\, c\, h}{c\, c\, d\, x} - \frac{h}{c\, d\, g\, c\, c\, h}} \right)}}{d\, \left(-f\, g\, c\, h \right)}} \right] \right] \right) \right/ \left(\left(b\, c\, -a\, d \right) \, \left(-d\, g\, c\, c\, h \right)} \right) - \frac{h}{d\, c\, c\, f\, g\, c\, d\, h}} \right] \right] \right] \right/ \left(\left(b\, c\, -a\, d \right) \, \left(-d\, g\, c\, c\, h \right)}{\left(-d\, e\, c\, f \right) \, \left(-d\, g\, c\, c\, h \right)} \right) - \frac{h}{d\, c\, c\, f\, g\, c\, a\, d\, h}} \right) \right] \right) \right/ \left(\left(b\, c\, -a\, d \right) \, \left(-d\, g\, c\, c\, h \right)}{\left(-d\, e\, c\, f \right) \, \left(-d\, g\, c\, c\, h \right)} \right) - \frac{h}{d\, c\, c\, f\, g\, c\, a\, d\, h}} \right) \right) \right) \right) \right) \right)$$

$$\left(-\frac{f}{-de+cf} + \frac{1}{c+dx} \right) \sqrt{\frac{-\frac{d}{de+c} + \frac{1}{c+dx}}{\frac{f}{-de+cf} - \frac{h}{-dg+ch}}}$$

$$\left(\left(-b\,dg + a\,dh \right) \, EllipticE \left[ArcSin \left[\sqrt{\frac{\left(de-cf \right) \left(h + \frac{dg}{-cdx} - \frac{ch}{c+dx} \right)}{d \left(-fg + eh \right)}} \, \right] \right) / \left(\left(b\,c - a\,d \right) \left(-d\,g + c\,h \right) \right) - \frac{1}{b\,c - a\,d} \, b \, EllipticF \left[ArcSin \left[\sqrt{\frac{\left(de-cf \right) \left(h + \frac{dg}{-cdx} - \frac{ch}{c+dx} \right)}{d \left(-fg + eh \right)}} \, \right] \right) / \left(\left(b\,c - a\,d \right) \left(-fg + eh \right) \right) - \frac{1}{b\,c - a\,d} \, b \, EllipticF \left[ArcSin \left[\sqrt{\frac{\left(de-cf \right) \left(h + \frac{dg}{-cdx} - \frac{ch}{c-dx} \right)}{d \left(-fg + eh \right)}} \, \right] \right) / \left(-de+c\,f \right) \left(-b\,g + a\,h \right) \, \right] \right) / \left(-de+c\,f \right) / \left(-b\,g + a\,h \right) + \frac{1}{c+dx} \, d + \frac{1}{c+dx} \,$$

Problem 13: Result more than twice size of optimal antiderivative.

$$\int \frac{de + cf + 2dfx}{\sqrt{a + bx} \sqrt{c + dx} \sqrt{e + fx} \sqrt{g + hx}} dx$$

Optimal (type 4, 449 leaves, 5 steps):

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

Result (type 4, 1529 leaves):

$$\frac{1}{b^2 \sqrt{c + \frac{(a+bx) \left(d - \frac{ad}{a,bx}\right)}{b}} \sqrt{e + \frac{(a+bx) \left(f - \frac{af}{a,bx}\right)}{b}} \sqrt{g + \frac{(a+bx) \left(h - \frac{ah}{a,bx}\right)}{b}} } \\ 2 \left(a + bx\right)^{3/2} \sqrt{\left(d + \frac{b\,c}{a + b\,x} - \frac{a\,d}{a + b\,x}\right) \left(f + \frac{b\,e}{a + b\,x} - \frac{a\,f}{a + b\,x}\right) \left(h + \frac{b\,g}{a + b\,x} - \frac{a\,h}{a + b\,x}\right)} \\ - \left(\left(b\,d\,e\,\sqrt{\frac{-\frac{d}{-b\,c + a\,d} + \frac{1}{a + b\,x}}{-\frac{d}{-b\,c + a\,d} + \frac{h}{-b\,g + a\,h}}} \sqrt{\frac{-\frac{f}{-b\,e + a\,f} + \frac{1}{a + b\,x}}{-\frac{f}{-b\,e + a\,f} + \frac{h}{-b\,g + a\,h}}} \left(-\frac{h}{-b\,g + a\,h} + \frac{1}{a + b\,x}\right)} \right) \right) \\ = EllipticF\left[ArcSin\left[\sqrt{\frac{\left(-b\,e + a\,f\right) \left(-h - \frac{b\,g}{a + b\,x} + \frac{a\,h}{a + b\,x}\right)}{b \left(-f\,g + e\,h\right)}}\right], \frac{\left(-b\,c + a\,d\right) \left(-f\,g + e\,h\right)}{\left(-b\,e + a\,f\right) \left(-d\,g + c\,h\right)}\right] \right) \\ = \left(\sqrt{\frac{-\frac{h}{-b\,g + a\,h} + \frac{1}{a + b\,x}}{-b\,g + a\,h}} \sqrt{\left(d + \frac{b\,c - a\,d}{a + b\,x}\right) \left(f + \frac{b\,e - a\,f}{a + b\,x}\right) \left(h + \frac{b\,g - a\,h}{a + b\,x}\right)}\right) - \\ \left(b\,c\,f\,\sqrt{\frac{-\frac{d}{-b\,c + a\,d} + \frac{1}{a + b\,x}}{-\frac{b\,c + a\,d}{-b\,c + a\,d} + \frac{1}{-b\,g + a\,h}}} \sqrt{\frac{-\frac{f}{-b\,e + a\,f} + \frac{1}{a + b\,x}}{-\frac{f}{-b\,e + a\,f} + \frac{h}{-b\,g + a\,h}}}} \left(-\frac{h}{-b\,g + a\,h} + \frac{1}{a + b\,x}\right) \right) \right) - \\$$

$$\begin{split} & \text{EllipticF}\left[\text{ArcSin}\left[\sqrt{\frac{\left(-b\,e+a\,f\right)\left(-h-\frac{b\,g}{a+b\,x}+\frac{a\,h}{a+b\,x}\right)}{b\left(-f\,g+e\,h\right)}}\,\right], \frac{\left(-b\,c+a\,d\right)\left(-f\,g+e\,h\right)}{\left(-b\,e+a\,f\right)\left(-d\,g+c\,h\right)}\,\right] \right] \\ & \sqrt{\frac{-\frac{h}{a-b\,g+a\,h}+\frac{1}{a+b\,x}}{-\frac{h}{a-b\,c+a\,d}}}\,\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)\left(h+\frac{b\,g-a\,h}{a+b\,x}\right)}\,+\\ & \sqrt{\frac{-\frac{d}{-b\,c+a\,d}+\frac{1}{a+b\,x}}{-b\,c+a\,d}+\frac{h}{-b\,g+a\,h}}}\,\,\sqrt{\frac{-\frac{f}{-b\,e+a\,f}+\frac{1}{a+b\,x}}{-\frac{f}{-b\,e+a\,f}+\frac{h}{a-b\,g+a\,h}}}\left(-\frac{h}{-b\,g+a\,h}+\frac{1}{a+b\,x}\right)} \\ & -\frac{h}{-b\,g+a\,h}+\frac{1}{a+b\,x}}{\left(-b\,e+a\,f\right)\left(-h-\frac{b\,g}{a+b\,x}+\frac{a\,h}{a+b\,x}\right)}}\right], \frac{\left(-b\,c+a\,d\right)\left(-f\,g+e\,h\right)}{\left(-b\,e+a\,f\right)\left(-d\,g+c\,h\right)}\right] \\ & \sqrt{\frac{-\frac{h}{-b\,g+a\,h}+\frac{1}{a-b\,x}}{-\frac{h}{-b\,g+a\,h}}}\,\,\sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)\left(h+\frac{b\,g-a\,h}{a+b\,x}\right)}} \\ & \sqrt{\frac{-\frac{d}{-b\,c+a\,f}+\frac{1}{a-b\,x}}{-b\,g+a\,h}}\,\,\sqrt{\frac{-\frac{d}{-b\,c+a\,d}+\frac{1}{a+b\,x}}{-\frac{d}{-b\,c+a\,d}+\frac{h}{a-b\,g+a\,h}}}} \\ & \sqrt{\frac{-\frac{f}{-b\,e+a\,f}+\frac{1}{a-b\,x}}{-\frac{d}{-b\,c+a\,d}+\frac{h}{a-b\,x}}}} \\ & \sqrt{\frac{-\frac{f}{-b\,e+a\,f}+\frac{1}{a-b\,x}}{\left(-\frac{f}{-b\,e+a\,f}+\frac{h}{a-b\,x}\right)}}} \,\, \text{EllipticPi}\left[-\frac{b\,f\,g+b\,h}{\left(-b\,e+a\,f\right)\left(-b\,g+a\,h}\right)}{\left(-b\,e+a\,f\right)\left(-d\,g+c\,h\right)}}\right] \\ & \sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)\left(h+\frac{b\,g-a\,h}{a-b\,x}\right)}}} \,\, \left(-\frac{b\,c+a\,d\right)\left(-f\,g+e\,h\right)}{\left(-b\,e+a\,f\right)\left(-d\,g+c\,h\right)}}\right] \\ & \sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)\left(h+\frac{b\,g-a\,h}{a-b\,x}\right)}}} \,\, \left(-\frac{b\,c+a\,d\right)\left(-f\,g+e\,h\right)}{\left(-b\,e+a\,f\right)\left(-d\,g+c\,h\right)}}\right) \\ & \sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)\left(h+\frac{b\,g-a\,h}{a-b\,x}\right)}}} \,\, \left(-\frac{b\,c+a\,d\right)\left(-f\,g+e\,h\right)}{\left(-b\,e+a\,f\right)\left(-d\,g+c\,h\right)}}\right) \\ & \sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)\left(h+\frac{b\,g-a\,h}{a+b\,x}\right)}} \,\, \left(-\frac{b\,c+a\,d\right)\left(-f\,g+e\,h\right)}{\left(-b\,e+a\,f\right)\left(-d\,g+c\,h\right)}}\right) \\ & \sqrt{\left(d+\frac{b\,c-a\,d}{a+b\,x}\right)\left(f+\frac{b\,e-a\,f}{a+b\,x}\right)\left(h+\frac{b\,g-a\,h}{a+b\,x}\right)}}} \,\, \left(-\frac{b\,c+a\,d}{a+b\,x}\right) \left(-\frac{b\,c+a\,d}{a+b\,x}\right) \left(-\frac{b\,c+a\,d}{a+b\,x}\right)}$$

Problem 14: Result more than twice size of optimal antiderivative.

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

Optimal (type 4, 625 leaves, 7 steps):

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

Result (type 4, 2236 leaves):

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

$$\left\{ b \, g - a \, h \right\} \, \left(a + b \, x \right)^{3/2} \, \sqrt{ \left(\left(d + \frac{b \, c}{a + b \, x} - \frac{a \, d}{a + b \, x} \right) \left(f + \frac{b \, e}{a + b \, x} - \frac{a \, f}{a + b \, x} \right) \left(h + \frac{b \, g}{a + b \, x} - \frac{a \, h}{a + b \, x} \right) \right) } \\ - \left(\left[b \, d \, e \, \sqrt{ \frac{ \left(b \, c - a \, d \right) \, \left(b \, g - a \, h \right) \, \left(- \frac{d}{b \, c + a \, d} + \frac{1}{a + b \, x} \right)}{b \, d \, g - b \, c \, h}} \, \left(- \frac{f}{-b \, e + a \, f} + \frac{1}{a + b \, x} \right) \right) } \right. \\ - \left(\left[b \, d \, g - b \, c \, h \right) \, \left(\left(b \, d \, g - b \, c \, h \right) \, EllipticE \left[\right. \right. \\ - \left. \left(b \, c - a \, d \right) \, \left(b \, g - a \, h \right) \, \left(- f \, g + e \, h \right) \right. \right] \right. \\ - \left. \left(\left(b \, c - a \, d \right) \, \left(b \, g - a \, h \right) \right) \right] - \frac{1}{-b \, c + a \, d} \, EllipticF \left[ArcSin \left[\right. \right. \\ - \left. \left(b \, c - a \, d \right) \, \left(b \, g - a \, h \right) \right) \right] - \frac{1}{-b \, c + a \, d} \, EllipticF \left[ArcSin \left[\right. \right. \\ - \left. \left(b \, c - a \, d \right) \, \left(b \, f \, g + e \, h \right) \right. \right] \right] \right. \\ - \left. \left(\left(b \, c - a \, d \right) \, \left(b \, f \, g + e \, h \right) \right. \right] \right. \\ - \left. \left(\left(b \, c - a \, d \right) \, \left(b \, g - a \, h \right) \, \left(d + \frac{b \, c - a \, d}{a + b \, x} \right) \, \left(f + \frac{b \, c - a \, d}{a + b \, x} \right) \, \left(h + \frac{b \, g - a \, h}{a + b \, x} \right) \right. \right] \right. \\ - \left. \left(\left(b \, c - a \, d \right) \, \left(b \, g - a \, h \right) \, \left(- \frac{d}{-b \, c + a \, d} + \frac{1}{a + b \, x} \right) \, \left(h + \frac{b \, g - a \, h}{a + b \, x} \right) \right. \right] \right. \\ - \left. \left(\left(b \, d \, g - b \, c \, h \right) \, EllipticE \left[ArcSin \left[\sqrt{ \left. \left(b \, c - a \, f \right) \, \left(h + \frac{b \, g - a \, h}{a + b \, x} \right) \, \left(- \frac{h}{-b \, c + a \, f} + \frac{1}{a + b \, x} \right) \, \sqrt{ \left. \left(- \frac{h}{-b \, c + a \, f} + \frac{1}{a + b \, x} \right) \, \left(- \frac{h}{-b \, c + a \, f} - \frac{h}{-b \, g + a \, f} - \frac{h}{-b \, g + a \, f} \right) \right. \right. \\ - \left. \left(\left(b \, d \, g - b \, c \, h \right) \, EllipticE \left[ArcSin \left[\sqrt{ \left(b \, c - a \, f \right) \, \left(h + \frac{b \, g - a \, h}{a + b \, x} \right) \, \left(- \frac{h}{-b \, c + a \, f} - \frac{h}{a + b \, x} \right) \right. \right. \right] \right. \\ - \left. \left(\left(b \, c \, c \, a \, d \right) \, \left(\left(b \, d \, g - b \, c \, h \right) \, \left(\left(b \, c \, c \, a \, f \right) \, \left(\left(b \, c \, c \, a \, f \right) \, \left(\left(b \, c \, a \, d \right) \, \left(b \, c \, a \, d \right) \right) \right. \right] \right. \right) \right. \\ - \left. \left(\left(b \, c \, c \, a \, d \right) \, \left(\left(b \, c \, c \, a \, d \right) \, \left(\left(b \, c \, c \, a$$

$$\frac{\left(-bc + ad\right) \left(-fg + eh\right)}{\left(-be + af\right) \left(-dg + ch\right)} \right] \right) / \\ \left(\sqrt{\frac{-\frac{f}{-\frac{he+af}{-\frac{he+af}{+\frac{ho}{bg+ah}}}}{-\frac{f}{-\frac{ho}{bg+ah}} + \frac{ho}{bg+ah}}} \sqrt{\left(d + \frac{bc - ad}{a + bx}\right) \left(f + \frac{be - af}{a + bx}\right) \left(h + \frac{bg - ah}{a + bx}\right)} \right) + \\ \left(2adf \sqrt{\frac{\left(bc - ad\right) \left(bg - ah\right) \left(-\frac{d}{-bc+ad} + \frac{1}{a+bx}\right)}{bdg - bch}} \left(-\frac{f}{-be + af} + \frac{1}{a+bx}\right) \\ \sqrt{\frac{-\frac{h}{-\frac{ho}{bg+ah}} + \frac{1}{a+bx}}{\frac{f}{-\frac{ho}{-bg+ah}} - \frac{ho}{-bg+ah}}} - \left[\left(bdg - bch \right) \text{ EllipticE} \right] \\ ArcSin \left[\sqrt{\frac{\left(be - af\right) \left(h + \frac{bg}{a+bx} - \frac{ah}{a+bx}\right)}{b\left(-fg + eh\right)}} \right], \frac{\left(-bc + ad\right) \left(-fg + eh\right)}{\left(-be + af\right) \left(-dg + ch\right)} \right] \right] / \\ \left(\left(bc - ad\right) \left(bg - ah\right) \right) - \frac{1}{-bc+ad} d \text{ EllipticF} \left[ArcSin \left[\sqrt{\frac{\left(be - af\right) \left(h + \frac{bg}{a+bx} - \frac{ah}{a+bx}\right)}{b\left(-fg + eh\right)}} \right], \frac{\left(-bc + ad\right) \left(-fg + eh\right)}{\left(-be + af\right) \left(-dg + ch\right)} \right] \right) / \\ \sqrt{\frac{-\frac{f}{-\frac{ho+af}{a+bx}} + \frac{1}{a+bx}}{-bg+ah}} \sqrt{\left(d + \frac{bc - ad}{a+bx}\right) \left(f + \frac{be - af}{a+bx}\right) \left(h + \frac{bg - ah}{a+bx}\right)} - \\ 2df \sqrt{\frac{-\frac{d}{-\frac{ho+af}{a+bx}} + \frac{1}{hog+ah}}{-\frac{ho+af}{-\frac{ho+af}{a+bx}} + \frac{1}{a+bx}}} \sqrt{\frac{\left(-bc + ad\right) \left(-fg + eh\right)}{b\left(-fg + eh\right)}} - \\ \sqrt{\frac{-\frac{ho+af}{a+bx} + \frac{1}{a+bx}}{-\frac{ho+af}{a+bx} + \frac{hog+ah}{a+bx}}}} \sqrt{\left(d + \frac{bc - ad}{a+bx}\right) \left(f + \frac{be - af}{a+bx}\right) \left(h + \frac{bg - ah}{a+bx}\right)} - \\ \sqrt{\frac{-\frac{ho+af}{a+bx} + \frac{1}{a+bx}}{-\frac{ho+af}{a+bx} + \frac{hog+ah}{a+bx}}}} \sqrt{\left(d + \frac{bc - ad}{a+bx}\right) \left(f + \frac{be - af}{a+bx}\right) \left(h + \frac{bg - ah}{a+bx}\right)} \right) \right) /$$

Problem 15: Result more than twice size of optimal antiderivative.

$$\int\! \frac{d\,e + c\,f + 2\,d\,f\,x}{\left(a + b\,x\right)^{\,5/2}\,\sqrt{c + d\,x}\,\,\sqrt{e + f\,x}\,\,\sqrt{g + h\,x}}\,\,\mathrm{d}x$$

Optimal (type 4, 1090 leaves, 8 steps):

Result (type 4, 10601 leaves):

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

$$\begin{array}{c} b^3\,c^2\,f^2\,g - a\,b^2\,c\,d\,f^2\,g + a^2\,b\,d^2\,f^2\,g + b^3\,c\,d\,e^2\,h - 2\,a\,b^2\,d^2\,e^2\,h + b^3\,c^2\,e\,f\,h - 3\,a\,b^2\,c\,d\,e\,f\,h + 4\,a^2\,b\,d^2\,e\,f\,h - 2\,a\,b^2\,c^2\,f^2\,h + 4\,a^2\,b\,c\,d\,f^2\,h - 3\,a^3\,d^2\,f^2\,h\big)\big)\,\Big/ \\ \\ \left(3\,\left(b\,c - a\,d\right)^2\,\left(b\,e - a\,f\right)^2\,\left(b\,g - a\,h\right)^2\,\left(a + b\,x\right)\right)\Big) + \\ \frac{1}{3\,b^2\,\left(-b\,c + a\,d\right)^2\,\left(-b\,e + a\,f\right)^2\,\left(-b\,g + a\,h\right)^2} \\ \\ \left[\left(2\,\left(b^3\,d^2\,e^2\,g - b^3\,c\,d\,e\,f\,g - a\,b^2\,c\,d\,e\,f\,h + 4\,a^2\,b\,d^2\,e\,f\,h - 2\,a\,b^2\,c^2\,f^2\,h + 4\,a^2\,b\,c\,d\,f^2\,h - 3\,a^3\,d^2\,f^2\,h\big)\right)\Big/ \\ \\ \frac{d^2\,e^2\,h + b^3\,c^2\,e\,f\,h - 3\,a\,b^2\,c\,d\,e\,f\,h + 4\,a^2\,b\,d^2\,e\,f\,h - 2\,a\,b^2\,c^2\,f^2\,h + 4\,a^2\,b\,c\,d\,f^2\,h - 3\,a^3\,d^2\,f^2\,h\big)}{f^2\,h\,\right)\,\left(a + b\,x\right)^{5/2}\left(d + \frac{b\,c}{a + b\,x} - \frac{a\,d}{a + b\,x}\right)\left(f + \frac{b\,e}{a + b\,x} - \frac{a\,f}{a + b\,x}\right)\left(h + \frac{b\,g}{a + b\,x} - \frac{a\,h}{a + b\,x}\right)\right)\Big/ \\ \\ \sqrt{c + \frac{(a + b\,x)\,\left(d - \frac{a\,d}{a + b\,x}\right)}{b}}\,\sqrt{e} + \frac{(a + b\,x)\,\left(f - \frac{a\,f}{a + b\,x}\right)}{b}}\,\sqrt{g} + \frac{(a + b\,x)\,\left(h - \frac{a\,h}{a + b\,x}\right)}{b}}\right)\Big/ \\ \\ \sqrt{c + \frac{(a + b\,x)\,\left(d - \frac{a\,d}{a + b\,x}\right)}{b}}\,\sqrt{e} + \frac{(a + b\,x)\,\left(f - \frac{a\,f}{a + b\,x}\right)}{b}}\,\sqrt{g} + \frac{(a + b\,x)\,\left(h - \frac{a\,h}{a + b\,x}\right)}{b}}\right)\Big/ \\ \\ \left(b\,g - a\,h\right)\,\left(a + b\,x\right)^{3/2}\,\sqrt{\left(\left(d + \frac{b\,c}{a + b\,x} - \frac{a\,d}{a + b\,x}\right)\,\left(f + \frac{b\,e}{a + b\,x} - \frac{a\,f}{a + b\,x}\right)\,\left(h + \frac{b\,g}{a + b\,x} - \frac{a\,h}{a + b\,x}\right)\right)}\right)} \\ \\ \left(2\,b^3\,d^2\,e^2\,g\,\sqrt{\frac{(b\,c - a\,d)\,\left(b\,g - a\,h\right)\left(-\frac{d}{a + b\,x} - \frac{1}{a + b\,x}\right)}{b\,d\,g - b\,c\,h}}}\,\left(-\left(\left(b\,d\,g - b\,c\,h\right)\,E1lipticE\left[A\,c\,Sin\left[\frac{d\,g}{a + b\,x} - \frac{a\,f}{a + b\,x}\right]\right)\right)\Big/ \\ \\ \left(\left(b\,c - a\,d\right)\,\left(b\,g - a\,h\right)\right)\right) - \frac{1}{-b\,c + a\,d}\,d\,E1lipticF\left[A\,c\,Sin\left[\frac{d\,g}{a + b\,a\,b\,x} - \frac{1}{a\,b\,a\,b\,x}\right]}\right)\Big/ \\ \\ \left(\left(b\,c - a\,d\right)\,\left(b\,g - a\,h\right)\right)\right) - \frac{1}{-b\,c + a\,d}\,d\,E1lipticF\left[A\,c\,Sin\left[\frac{d\,g}{a + b\,a\,b\,x} - \frac{1}{a\,b\,a\,b\,x}\right]}\right)\Big/ \\ \\ \left(\left(b\,c - a\,d\right)\,\left(b\,g - a\,h\right)\right)\right) - \frac{1}{-b\,c + a\,d}\,d\,E1lipticF\left[A\,c\,Sin\left[\frac{d\,g}{a + b\,a\,b\,x} - \frac{1}{a\,b\,a\,b\,x}\right]}\right)\Big/ \\ \\ \left(\left(b\,c - a\,d\right)\,\left(b\,g - a\,h\right)\right)\right) - \frac{1}{-b\,c + a\,d\,d\,B1lipticF\left[A\,c\,Sin\left[\frac{d\,g}{a + b\,a\,a\,x} - \frac{1}{a\,b\,a\,a\,x}\right]}\right)\Big/ \\ \\ \left(\left(b\,c - a\,d\right)\,\left(b\,g - a\,h\right)\right)\right) - \frac{1}{-b\,c\,a\,d\,a\,a\,a\,x}$$

$$\sqrt{\frac{\left(be-af\right)\left(h+\frac{bg}{a+bx}-\frac{ah}{a+bx}\right)}{b\left(-fg+eh\right)}}} \right], \frac{\left(-bc+ad\right)\left(-fg+eh\right)}{\left(-be+af\right)\left(-dg+ch\right)} \right] /$$

$$\sqrt{\frac{-\frac{f}{-be+af}+\frac{1}{a+bx}}{-be+af}+\frac{1}{-bg+ah}}} \sqrt{\left(d+\frac{bc-ad}{a+bx}\right)\left(f+\frac{be-af}{a+bx}\right)\left(h+\frac{bg-ah}{a+bx}\right)} -$$

$$\sqrt{\frac{-\frac{f}{-be+af}+\frac{1}{a+bx}}{-bg+ah}+\frac{1}{-bg+ah}}} - \sqrt{\left(d+\frac{bc-ad}{a+bx}\right)\left(f+\frac{be-af}{a+bx}\right)\left(h+\frac{bg-ah}{a+bx}\right)} -$$

$$\sqrt{\frac{-\frac{h}{-be+af}+\frac{1}{a-bx}}{-be+af}-\frac{h}{-bg+ah}}} - \left(\left(bdg-bch\right)EllipticE \right[$$

$$ArcSin \left[\sqrt{\frac{\left(be-af\right)\left(h+\frac{bg}{a+bx}-\frac{ah}{a+bx}\right)}{b\left(-fg+eh\right)}} \right], \frac{\left(-bc+ad\right)\left(-fg+eh\right)}{\left(-be+af\right)\left(-dg+ch\right)} \right] /$$

$$\left(\left(bc-ad\right)\left(bg-ah\right) \right) - \frac{1}{-bc+ad} dEllipticF \left[ArcSin \left[\sqrt{\frac{\left(be-af\right)\left(h+\frac{bg}{a+bx}-\frac{ah}{a+bx}\right)}{b\left(-fg+eh\right)}} \right], \frac{\left(-bc+ad\right)\left(-fg-eh\right)}{\left(-be+af\right)\left(-dg+ch\right)} \right] /$$

$$\sqrt{\frac{-\frac{f}{-be+af}+\frac{1}{a+bx}}{-be+af}} \sqrt{\left(d+\frac{bc-ad}{a+bx}\right)\left(f+\frac{be-af}{a+bx}\right)\left(h+\frac{bg-ah}{a+bx}\right)} -$$

$$\sqrt{\frac{-\frac{f}{-be+af}+\frac{1}{a-bx}}{bdg-bch}} - \frac{\left(bc-ad\right)\left(bg-ah\right)\left(-\frac{d}{-bc+ad}+\frac{1}{a+bx}\right)}{bdg-bch}} - \frac{f}{-be+af} + \frac{1}{a+bx} \right)$$

$$\sqrt{\frac{-\frac{h}{-be+af}+\frac{1}{a-bx}}{-be+af}-\frac{h}{-bg+ah}}} - \left(\left(bdg-bch\right)EllipticE \right[$$

$$ArcSin \left[\sqrt{\frac{\left(be-af\right)\left(h+\frac{bg}{a+bx}-\frac{ah}{a+bx}\right)}{b\left(-fg+eh\right)}} \right], \frac{\left(-bc+ad\right)\left(-fg+eh\right)}{\left(-be+af\right)\left(-dg+ch\right)} \right] /$$

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

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

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

$$-\frac{\frac{h}{-b \, e \, a \, f} + \frac{1}{a \, - b \, x}}{b \, \left(- f \, g \, + e \, h \right)} \, \left(\left(b \, d \, g \, - b \, c \, h \right) \, \text{EllipticE}} \right[$$

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

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

$$\left(\sqrt{\frac{\left(b \, e \, - a \, f \right) \, \left(h \, + \frac{b \, g}{a \, - b \, x} - \frac{a \, h}{a \, - b \, x}} \right)}{b \, \left(- f \, g \, + e \, h \right)} \right) \right) /$$

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

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

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

$$ArcSin\Big[\sqrt{\frac{\left(be-af\right)\left(h+\frac{bg}{a+bx}-\frac{ah}{a+bx}\right)}{b\left(-fg+eh\right)}}\Big], \frac{\left(-bc+ad\right)\left(-fg+eh\right)}{\left(-be+af\right)\left(-dg+ch\right)}\Big] \Bigg/ \\ \left(\left(bc-ad\right)\left(bg-ah\right)\right) - \frac{1}{-bc+ad}dEllipticF\Big[ArcSin\Big[\\ \sqrt{\frac{\left(be-af\right)\left(h+\frac{bg}{a+bx}-\frac{ah}{a+bx}\right)}{b\left(-fg+eh\right)}}\Big], \frac{\left(-bc+ad\right)\left(-fg+eh\right)}{\left(-be+af\right)\left(-dg+ch\right)}\Big] \Bigg/ \\ \left(\sqrt{\frac{-\frac{f}{-be+af}+\frac{1}{a+bx}}{-be+af}+\frac{h}{-bg+ah}}\sqrt{\left(d+\frac{bc-ad}{a+bx}\right)\left(f+\frac{be-af}{a+bx}\right)\left(h+\frac{bg-ah}{a+bx}\right)} \right] + \\ \left(2a^2bd^2f^2g\sqrt{\frac{\left(bc-ad\right)\left(bg-ah\right)\left(-\frac{d}{-bc+ad}+\frac{1}{a+bx}\right)}{bdg-bch}}\left(-\frac{f}{-be+af}+\frac{1}{a+bx}\right) \\ \sqrt{\frac{-\frac{h}{-be+af}+\frac{1}{a+bx}}{-bg+ah}}\left(-\left[\left(bdg-bch\right)EllipticE\Big[\right. \\ ArcSin\Big[\sqrt{\frac{\left(be-af\right)\left(h+\frac{bg}{a+bx}-\frac{ah}{a+bx}\right)}{b\left(-fg+eh\right)}}\right], \frac{\left(-bc+ad\right)\left(-fg+eh\right)}{\left(-be+af\right)\left(-dg+ch\right)}\Big] \right/ \\ \left(\left(bc-ad\right)\left(bg-ah\right)\right) - \frac{1}{-bc+ad}dEllipticF\Big[ArcSin\Big[\\ \sqrt{\frac{\left(be-af\right)\left(h+\frac{bg}{a+bx}-\frac{ah}{a+bx}\right)}{b\left(-fg+eh\right)}}\right], \frac{\left(-bc+ad\right)\left(-fg+eh\right)}{\left(-be+af\right)\left(-dg+ch\right)}\Big] \right/ \\ \left(\sqrt{\frac{-\frac{f}{-be+af}+\frac{1}{a+bx}}{-\frac{h}{-bg+ah}}}\sqrt{\left(d+\frac{bc-ad}{a+bx}\right)\left(f+\frac{be-af}{a+bx}\right)\left(h+\frac{bg-ah}{a+bx}\right)} + \\ \left(2b^3cde^2h\sqrt{\frac{\left(bc-ad\right)\left(bg-ah\right)\left(-\frac{d}{-bc+ad}+\frac{1}{a+bx}\right)}} - \frac{f}{-be+af} + \frac{1}{a+bx}\right)$$

$$\frac{-\frac{h}{-bg\cdot ah} + \frac{1}{a \cdot bx}}{\sqrt{\frac{h}{-be\cdot af} - \frac{h}{-bg\cdot ah}}} \left(-\left(\left(b \, dg - b \, c \, h \right) \, EllipticE \right[\right. \right. \\ \left. \left. \left(b \, c - a \, f \right) \left(h + \frac{bg}{a \cdot bx} - \frac{ah}{a \cdot bx} \right) \right], \frac{\left(-b \, c + a \, d \right) \left(-f \, g + e \, h \right)}{\left(-b \, e + a \, f \right) \left(-d \, g + c \, h \right)} \right] \right)$$

$$\left(\left(b \, c - a \, d \right) \left(b \, g - a \, h \right) \right) - \frac{1}{-bc\cdot ad} d \, EllipticF \left[ArcSin \left[\sqrt{\frac{\left(b \, e - a \, f \right) \left(h + \frac{bg}{a \cdot bx} - \frac{ah}{a \cdot bx} \right)}{b \left(-f \, g + e \, h \right)}} \right], \frac{\left(-b \, c + a \, d \right) \left(-f \, g + e \, h \right)}{\left(-b \, e + a \, f \right) \left(-d \, g + c \, h \right)} \right] \right) \right)$$

$$\left(\sqrt{\frac{-\frac{f}{-be\cdot af} + \frac{1}{a \cdot bx}}{b \cdot g \cdot ah}} \, \sqrt{\left(d + \frac{b \, c - a \, d}{a \cdot bx} \right) \left(f + \frac{b \, e - a \, f}{a \cdot bx} \right) \left(h + \frac{b \, g - a \, h}{a \cdot bx} \right)} - \frac{1}{b \cdot dg - b \cdot h} \right)$$

$$\left(\sqrt{\frac{-\frac{h}{-be\cdot af} + \frac{1}{a \cdot bx}}{b \cdot dg - ah}} \, - \frac{1}{b \cdot dg - ah} \left(-\frac{d}{-bc\cdot ad} + \frac{1}{a \cdot bx} \right) \right)$$

$$\sqrt{\frac{-\frac{h}{-be\cdot af} + \frac{1}{a \cdot bx}}{-\frac{h}{-bg\cdot ah}}} - \frac{1}{-\frac{h}{-bg\cdot ah}} \left(-\frac{\left(b \, dg - b \, c \, h \right) \, EllipticE}{b \cdot \left(-f \, g + e \, h \right)} \right)$$

$$\left(\left(b \, c - a \, d \right) \left(b \, g - a \, h \right) \right) - \frac{1}{-b \, c + a \, d} \, d \, EllipticF \left[ArcSin \left[\sqrt{\frac{\left(b \, e - a \, f \right) \left(h + \frac{bg}{-abx} - \frac{ah}{a \cdot bx}}{b \cdot \left(-f \, g + e \, h \right)} \right) \right) \right)$$

$$\left(\left(b \, c - a \, d \right) \left(b \, g - a \, h \right) \right) - \frac{1}{-b \, c + a \, d} \, d \, EllipticF \left[ArcSin \left[\sqrt{\frac{\left(b \, e - a \, f \right) \left(h + \frac{bg}{-abx} - \frac{ah}{a \cdot bx}}{b \cdot \left(-b \, e + a \, f \right) \left(-d \, g + c \, h \right)} \right) \right) \right)$$

$$\left(\left(b \, c - a \, d \right) \left(b \, g - a \, h \right) \right) - \frac{1}{-b \, c + a \, d} \, d \, EllipticF \left[ArcSin \left[\sqrt{\frac{\left(b \, e - a \, f \right) \left(h + \frac{bg}{-abx} - \frac{ah}{a \cdot bx}} \right) \left(-b \, c + a \, d \right) \left(-f \, g + e \, h \right)} \right) \right)$$

$$\left(\left(b \, c - a \, f \right) \left(h \, e - a \, f \right) \left(h \, e - a \, f \right) \left(-b \, c + a \, d \right) \left(-f \, g + e \, h \right) \right) \right)$$

$$\left(\left(b \, c - a \, f \right) \left(h \, e - a \, f \right) \left(h \, e - a \, f \right) \left(-b \, c - a \, f \right) \left(-b \, c + a \, f \right) \left(-b \, c - a \, f \right) \right) \right)$$

$$\left(\left(b \, e - a \, f \right) \left(h \, e - a \, f \right) \left(h \, e - a \, f \right) \left(h \, e - a \, f \right) \left(-b \, c - a \, f \right) \left(-b \, e - a \, f \right) \left(-$$

$$\left(\sqrt{\frac{-\frac{f}{-be+af} + \frac{1}{a+bx}}{-\frac{be+af}{-be+af} + \frac{b}{-bg+ah}}} \sqrt{\left(d + \frac{bc-ad}{a+bx}\right) \left(f + \frac{be-af}{a+bx}\right) \left(h + \frac{bg-ah}{a+bx}\right)} + \frac{1}{a+bx} \right)$$

$$\left(8a^2bd^2efh \sqrt{\frac{\left(bc-ad\right) \left(bg-ah\right) \left(-\frac{d}{-bc+af} + \frac{1}{a+bx}\right)}{bdg-bch}} - \left(-\frac{f}{-be+af} + \frac{1}{a+bx}\right) \right)$$

$$\sqrt{\frac{-\frac{h}{-be+af} + \frac{1}{a+bx}}{-bg+ah}} - \left(\left(bdg-bch\right) EllipticE \right)$$

$$ArcSin \left[\sqrt{\frac{\left(be-af\right) \left(h + \frac{bg}{a+bx} - \frac{ah}{a+bx}\right)}{b \left(-fg+eh\right)}} \right], \frac{\left(-bc+ad\right) \left(-fg+eh\right)}{\left(-be+af\right) \left(-dg+ch\right)} \right] \right]$$

$$\left(\left(bc-ad\right) \left(bg-ah\right) \right) - \frac{1}{-bc+ad} dEllipticF \left[ArcSin \left[\sqrt{\frac{\left(be-af\right) \left(h + \frac{bg}{a+bx} - \frac{ah}{a+bx}\right)}{b \left(-fg+eh\right)}} \right], \frac{\left(-bc+ad\right) \left(-fg+eh\right)}{\left(-be+af\right) \left(-dg+ch\right)} \right] \right)$$

$$\sqrt{\frac{-\frac{f}{-be+af} + \frac{1}{a+bx}}{-bg+ah}} \sqrt{\left(d + \frac{bc-ad}{a+bx}\right) \left(f + \frac{be-af}{a+bx}\right) \left(h + \frac{bg-ah}{a+bx}\right)} -$$

$$\sqrt{\frac{-\frac{f}{-be+af} + \frac{1}{a+bx}}{bdg-bch}} - \left(\left(bdg-bch\right) EllipticE \right)$$

$$\sqrt{\frac{-\frac{h}{-be+af} + \frac{1}{a+bx}}{-bg+ah}} - \left(\left(bdg-bch\right) EllipticE \right)$$

$$ArcSin \left[\sqrt{\frac{\left(bc-af\right) \left(h + \frac{bg}{a+bx} - \frac{ah}{a+bx}\right)}{b \left(-fg+eh\right)}} \right], \frac{\left(-bc+ad\right) \left(-fg+eh\right)}{\left(-be+af\right) \left(-dg+ch\right)} \right]$$

$$\left(\left(bc-ad\right) \left(bg-ah\right) \right) - \frac{1}{-bc+ad} dEllipticF \left[ArcSin \left[-\frac{bc+ad}{bc+af} \left(-dg+ch\right) \right] \right)$$

$$\sqrt{\frac{\left(be-af\right)\left(h+\frac{bg}{a_1bx}-\frac{ah}{a_1bx}\right)}{b\left(-fg+eh\right)}} \], \frac{\left(-bc+ad\right)\left(-fg+eh\right)}{\left(-be+af\right)\left(-dg+ch\right)} \]} \ / \\ \sqrt{\frac{-\frac{f}{-be+af}+\frac{1}{a_1bx}}{-be+af}+\frac{h}{-bg+ah}}} \sqrt{\left(d+\frac{bc-ad}{a+bx}\right)\left(f+\frac{be-af}{a+bx}\right)\left(h+\frac{bg-ah}{a+bx}\right)} + \\ \begin{cases} 8a^2bcdf^2h \sqrt{\frac{\left(bc-ad\right)\left(bg-ah\right)\left(-\frac{d}{-bc+ad}+\frac{1}{a+bx}\right)}{bdg-bch}} \ -\left(\frac{f}{-be+af}+\frac{1}{a+bx}\right) \end{cases} \\ \sqrt{\frac{-\frac{h}{-be+af}+\frac{1}{a-bx}}{-bg+ah}+\frac{1}{a-bx}}} - \left(\left(bdg-bch\right)\text{EllipticE}\right) \\ \sqrt{\frac{\left(bc-ad\right)\left(bg-ah\right)\left(-fg+eh\right)}{b\left(-fg+eh\right)}} \], \frac{\left(-bc+ad\right)\left(-fg+eh\right)}{\left(-be+af\right)\left(-dg+ch\right)} \] \ / \\ \left(\left(bc-ad\right)\left(bg-ah\right)\right) - \frac{1}{-bc+ad} d\text{EllipticF}\left[ArcSin\left[-\frac{dbc-af}{bc+ad}+\frac{1}{a-bx}\right] - \frac{h}{a-bx} - \frac{ah}{a-bx} - \frac{h}{a-bx} - \frac{h}{a-bx}$$

$$\left(\left(b \, c - a \, d \right) \, \left(b \, g - a \, h \right) \right) - \frac{1}{-b \, c + a \, d} \, d \, Elliptic F \left[ArcSin \left[\frac{\left(b \, e - a \, f \right) \, \left(h + \frac{b \, g}{a + b \, x} - \frac{a \, h}{a + b \, x} \right)}{b \, \left(- f \, g + e \, h \right)} \right], \, \frac{\left(- b \, c + a \, d \right) \, \left(- f \, g + e \, h \right)}{\left(- b \, e + a \, f \right) \, \left(- d \, g + c \, h \right)} \right] \right) /$$

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

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

$$Elliptic F \left[ArcSin \left[\sqrt{\frac{\left(- b \, e \, a \, f \right) \, \left(- h \, - \frac{b \, g}{a \, a \, b \, x} + \frac{a \, h}{a \, b \, x}} \right) \left(- h \, - \frac{h}{a \, a \, b \, x} + \frac{1}{a \, b \, x} \right) \right. \right.$$

$$\left[\sqrt{\frac{-\frac{h}{-b \, c \, a \, d} + \frac{1}{a \, b \, a \, b \, x}}{\frac{-\frac{d}{-b \, c \, a \, d} + \frac{h}{a \, b \, b \, x}}{-\frac{d}{-b \, c \, a \, d} + \frac{h}{-b \, b \, a \, f} + \frac{h}{-b \, b \, a \, f} + \frac{h}{a \, b \, b \, x}} \right) \left. \left(h + \frac{b \, g \, - a \, h}{a \, a \, b \, x} \right) \right. \right] \right.$$

$$Elliptic F \left[ArcSin \left[\sqrt{\frac{\left(- b \, e \, a \, d \right) \, \left(- h \, - \frac{b \, g}{a \, a \, b \, x} + \frac{a \, h}{a \, b \, x}} \right) \, \left(- \frac{h}{-b \, g \, a \, h} + \frac{1}{a \, a \, b \, x}} \right) \right.$$

$$\left. \left(- \frac{h}{-b \, a \, a \, d} + \frac{1}{a \, b \, a \, b \, x} \right) \, \left(- \frac{h}{-b \, a \, a \, f} + \frac{1}{a \, b \, a \, b \, x} \right) \, \left. \left(- \frac{h}{-b \, a \, a \, f} + \frac{1}{a \, b \, a \, b \, x} \right) \, \left(- \frac{h}{-b \, a \, a \, f} + \frac{1}{a \, b \, a \, b \, x} \right) \right.$$

$$\left. \left(- \frac{h}{-b \, a \, a \, d} + \frac{1}{a \, a \, b \, x} \right) \, \left(- \frac{h}{-b \, a \, a \, f} + \frac{1}{a \, a \, b \, x} \right) \, \left. \left(- \frac{h}{-b \, a \, a \, f} + \frac{1}{a \, a \, b \, x} \right) \, \left. \left(- \frac{h}{-b \, a \, a \, f} + \frac{1}{a \, a \, b \, x} \right) \, \right. \right.$$

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

$$\left[\sqrt{\frac{-\frac{h}{-b_{g+a}h} + \frac{1}{a+bx}}{\frac{f}{-b-e+af}}} \sqrt{\left(d + \frac{b\,c - a\,d}{a + b\,x}\right) \left(f + \frac{b\,e - a\,f}{a + b\,x}\right) \left(h + \frac{b\,g - a\,h}{a + b\,x}\right)} \right] + \\ \left[b^2\,d^2\,e^2\,h \sqrt{\frac{-\frac{d}{-b-e+ad} + \frac{1}{a+bx}}{\frac{-b-e+ad}{-b-e+ad} + \frac{1}{-b-e+af}}} \sqrt{\frac{-\frac{f}{-b-e+af} + \frac{1}{a+bx}}{\frac{-b-e+af}{-b-e+af} + \frac{1}{-b-ah}}} \left(-\frac{h}{-b+a+b} + \frac{1}{a+bx}\right) + \\ EllipticF\left[ArcSin\left[\sqrt{\frac{\left(-b\,e + a\,f\right) \left(-h - \frac{b\,g}{-b+ab} + \frac{a\,h}{a+bx}\right)}{b \left(-f\,g + e\,h\right)}}\right], \frac{\left(-b\,c + a\,d\right) \left(-f\,g + e\,h\right)}{\left(-b\,e + a\,f\right) \left(-d\,g + c\,h\right)} \right] \right] \\ \left[\sqrt{\frac{-\frac{h}{-b-ad} + \frac{1}{a+bx}}{\frac{1}{-b-a}h}} \sqrt{\left(d + \frac{b\,c - a\,d}{a + b\,x}\right) \left(f + \frac{b\,e - a\,f}{a + b\,x}\right) \left(h + \frac{b\,g - a\,h}{a + b\,x}\right)} + \\ \left[2\,b^2\,c\,d\,e\,f\,h \sqrt{\frac{-\frac{d}{-b-ad} + \frac{1}{a+bx}}{\frac{-\frac{d}{-b-ad}}{-b-a+a} + \frac{h}{-b-ab}}} \sqrt{\frac{-\frac{f}{-b-aaf} + \frac{1}{a+bx}}{\frac{-\frac{f}{-b-aaf} + \frac{1}{a+bx}}}} - \frac{h}{-\frac{h}{-b\,g+ah}} \left(-\frac{h}{-b\,g+ah} + \frac{1}{a+bx}\right) + \\ EllipticF\left[ArcSin\left[\sqrt{\frac{\left(-b\,e + a\,f\right) \left(-h - \frac{b\,g}{a+bx} + \frac{a\,h}{a+bx}\right)}{b \left(-f\,g + e\,h\right)}} \right], \frac{\left(-b\,c + a\,d\right) \left(-f\,g + e\,h\right)}{\left(-b\,e + a\,f\right) \left(-d\,g + c\,h\right)} \right] \right] \\ \sqrt{\frac{-\frac{h}{-b-aaf} + \frac{1}{a+bx}}{\frac{-b-aa}{-b-aa} + \frac{1}{a-bx}}}} \sqrt{\left(d + \frac{b\,c - a\,d}{a + b\,x}\right) \left(f + \frac{b\,e - a\,f}{a+bx}\right) \left(h + \frac{b\,g - a\,h}{a+bx}\right)} - \\ EllipticF\left[ArcSin\left[\sqrt{\frac{\left(-b\,e + a\,f\right) \left(-h - \frac{b\,g}{a+bx} + \frac{a\,h}{a+bx}\right)}{\frac{f}{-b-aaf} + \frac{1}{a+bx}}} \left(-\frac{h}{-b\,g+ah} + \frac{1}{a+bx}\right) + \\ \sqrt{\frac{\left(-b\,e + a\,f\right) \left(-b\,e + a\,f\right) \left(-h - \frac{b\,g}{a+bx} + \frac{a\,h}{a+bx}\right)}{\frac{f}{-b-aaf} + \frac{1}{a+bx}}} \right] , \frac{\left(-b\,c + a\,d\right) \left(-f\,g + e\,h\right)}{\left(-b\,e + a\,f\right) \left(-d\,g + c\,h\right)} \right] \\ \sqrt{\frac{\left(-b\,e + a\,f\right) \left(-b\,e + a\,f\right) \left(-h - \frac{b\,g}{a+bx} + \frac{a\,h}{a+bx}\right)}{\frac{f}{-b-aaf} + \frac{1}{a+bx}}} \left(-\frac{h}{-b\,g+ah} + \frac{1}{a+bx}\right)} + \\ \sqrt{\frac{\left(-b\,e + a\,f\right) \left(-b\,e + a\,f\right) \left(-h - \frac{b\,g}{a+bx} + \frac{a\,h}{a+bx}\right)}{\frac{f}{-b-aaf} + \frac{h}{a+bx}}} \left(-\frac{h}{-b\,g+ah} + \frac{1}{a+bx}\right)} + \\ \sqrt{\frac{\left(-b\,e + a\,f\right) \left(-b\,e + a\,f\right)}{\frac{h}{-b-aaf} + \frac{h}{a+bx}}} \right)} \right]$$

Problem 16: Result unnecessarily involves complex numbers and more than twice size of optimal antiderivative.

$$\int \frac{\left(\,a + b\,x\,\right) \; \left(\,a \; b \; B - a^2 \; C + b^2 \; B \; x + b^2 \; C \; x^2\,\right)}{\sqrt{c + d \; x} \; \sqrt{e + f \; x} \; \sqrt{g + h \; x}} \; \mathrm{d} x$$

Optimal (type 4, 721 leaves, 8 steps):

Result (type 4, 12665 leaves):

$$\sqrt{\left(f + \frac{d\,e}{c + d\,x} - \frac{c\,f}{c + d\,x}\right) \left(h + \frac{d\,g}{c + d\,x} - \frac{c\,h}{c + d\,x}\right)} \, \left[\left(8\,i\,b^3\,C\,d^4\,e\,f^2\,g^3\,h\,\sqrt{1 - \frac{-d\,e + c\,f}{f\,\left(c + d\,x\right)}}\right) \right. \\ \left. \sqrt{1 - \frac{-d\,g + c\,h}{h\,\left(c + d\,x\right)}} \right[\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-d\,e + c\,f}{f}}}{\sqrt{c + d\,x}}\right], \frac{f\,\left(-d\,g + c\,h\right)}{\left(-d\,e + c\,f\right)\,h}\right] - \\ \left. \text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-d\,e + c\,f}{f}}}{\sqrt{c + d\,x}}\right], \frac{f\,\left(-d\,g + c\,h\right)}{\left(-d\,e + c\,f\right)\,h}\right] \right] \right/ \\ \left[\sqrt{-\frac{-d\,e + c\,f}{f}} \, \left(-d\,g + c\,h\right) \, \sqrt{\left(f + \frac{d\,e - c\,f}{c + d\,x}\right) \left(h + \frac{d\,g - c\,h}{c + d\,x}\right)} \right] - \left[8\,i\,b^3\,c\,C\,d^3 \right] \\ \left. f^3\,g^3\,h\, \sqrt{1 - \frac{-d\,e + c\,f}{f\,\left(c + d\,x\right)}} \, \sqrt{1 - \frac{-d\,g + c\,h}{h\,\left(c + d\,x\right)}} \, \left[\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{-\frac{-d\,e + c\,f}{f}}}{\sqrt{c + d\,x}}\right], \frac{f\,\left(-d\,g + c\,h\right)}{\left(-d\,e + c\,f\right)\,h}\right] \right] \right/ \\ \left. \sqrt{-\frac{-d\,e + c\,f}{f}} \, \left(-d\,g + c\,h\right) \, \sqrt{\left(f + \frac{d\,e - c\,f}{c + d\,x}\right) \left(h + \frac{d\,g - c\,h}{c + d\,x}\right)} \, + \frac{f\,\left(-d\,g + c\,h\right)}{\left(-d\,e + c\,f\right)\,h}\right] \right] \right/ \\ \left. \sqrt{-\frac{-d\,e + c\,f}{f}} \, \left(-d\,g + c\,h\right) \, \sqrt{\left(f + \frac{d\,e - c\,f}{c + d\,x}\right) \left(h + \frac{d\,g - c\,h}{c + d\,x}\right)} \, + \frac{f\,(-d\,g + c\,h)}{\left(-d\,e + c\,f\right)\,h}\right] \right] \right/ \\ \left. \sqrt{-\frac{-d\,e + c\,f}{f}} \, \left(-d\,g + c\,h\right) \, \sqrt{\left(f + \frac{d\,e - c\,f}{c + d\,x}\right) \left(h + \frac{d\,g - c\,h}{c + d\,x}\right)} \, \right] + \frac{f\,(-d\,g + c\,h)}{\left(-d\,e + c\,f\right)\,h} \right] \right] \right/ \left. \sqrt{\frac{-d\,e + c\,f}{f}} \, \left(-d\,g + c\,h\right) \, \sqrt{\frac{-d\,e + c\,f}{f}} \, \left(-d\,g + c\,h\right)}{\left(-d\,e + c\,f\right)\,h} \right] \right.$$

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

$$\left[\sqrt{-\frac{-d\,e+c\,f}{f}} \, \left(-d\,g+c\,h\right) \, \sqrt{\left(f+\frac{d\,e-c\,f}{c+d\,x}\right)} \left(h+\frac{d\,g-c\,h}{c+d\,x}\right) \right] - \left[\text{Bi}\,b^3\,c\,C\,d^3\,e\,f^2\,g^2\,h^2 \, \sqrt{1-\frac{-d\,e+c\,f}{f}} \, \left(c+d\,x\right)} \, \sqrt{1-\frac{-d\,g+c\,h}{h}\left(c+d\,x\right)} \right] - \left[\text{EllipticE} \Big[\text{i}\, \text{ArcSinh} \Big[\frac{\sqrt{-\frac{-d\,e+c\,f}{f}}}{\sqrt{c+d\,x}} \Big], \, \frac{f\left(-d\,g+c\,h\right)}{\left(-d\,e+c\,f\right)\,h} \Big] - \left[\sqrt{-\frac{-d\,e+c\,f}{f}} \, \left(-d\,g+c\,h\right) \, \sqrt{\left(f+\frac{d\,e-c\,f}{c+d\,x}\right)} \left(h+\frac{d\,g-c\,h}{c+d\,x}\right)} \right] - \left[10\,\text{i}\,b^3\,B\,d^4\,e\,f^2\,g^2\,h^2 \, \sqrt{1-\frac{-d\,e+c\,f}{f}\left(c+d\,x\right)}} \, \sqrt{1-\frac{-d\,g+c\,h}{h}\left(c+d\,x\right)} \right] - \left[\text{EllipticE} \Big[\text{i}\, \text{ArcSinh} \Big[\frac{\sqrt{-\frac{-d\,e+c\,f}{f}}}{\sqrt{c+d\,x}} \Big], \, \frac{f\left(-d\,g+c\,h\right)}{\left(-d\,e+c\,f\right)\,h} \Big] - \left[\text{EllipticE} \Big[\text{i}\, \text{ArcSinh} \Big[\frac{\sqrt{-\frac{-d\,e+c\,f}{f}}}{\sqrt{c+d\,x}} \Big], \, \frac{f\left(-d\,g+c\,h\right)}{\left(-d\,e+c\,f\right)\,h} \Big] \right] \right] \right/$$

$$\left(\sqrt{ - \frac{-\,d\,\,e + c\,\,f}{f}} \right. \, \left(-\,d\,\,g + c\,\,h \right) \,\, \sqrt{\,\left(f + \,\frac{d\,\,e - c\,\,f}{c + d\,\,x} \right) \,\, \left(h + \,\frac{d\,\,g - c\,\,h}{c + d\,\,x} \right) \,\,} \right) - \frac{1}{c} \,\, \left(-\,d\,\,g + c\,\,h \right) \,\, \left($$

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

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

$$\dot{\mathbb{1}} \,\, b^3 \, c^2 \, C \, d^2 \, f^3 \, g^2 \, h^2 \, \sqrt{ 1 - \frac{-\, d \, e \, + \, c \, f}{f \, \left(\, c \, + \, d \, \, x \, \right) } } \,\, \sqrt{ 1 - \frac{-\, d \, g \, + \, c \, \, h}{h \, \left(\, c \, + \, d \, \, x \, \right) } }$$

$$\left[\text{EllipticE} \left[\, \dot{\mathbb{I}} \, \, \text{ArcSinh} \left[\, \frac{\sqrt{-\, \frac{-d\, e + c\, f}{f}}}{\sqrt{\, c + d\, x}} \, \right] \, , \, \, \frac{f\, \left(-d\, g + c\, h \right)}{\left(-d\, e + c\, f \right)\, h} \, \right] \, - \right] \, .$$

$$\label{eq:final_continuous_con$$

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

$$\left[10 \text{ i } b^3 \text{ B } c \, d^3 \, f^3 \, g^2 \, h^2 \, \sqrt{1 - \frac{-d \, e + c \, f}{f} \, \left(c + d \, x\right)}} \, \sqrt{1 - \frac{-d \, g + c \, h}{h} \, \left(c + d \, x\right)} \right]$$

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

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

$$\left[\sqrt{-\frac{-d \, e + c \, f}{f}} \, \left(-d \, g + c \, h\right) \, \sqrt{\left(f + \frac{d \, e - c \, f}{c + d \, x}\right) \, \left(h + \frac{d \, g - c \, h}{c + d \, x}\right)} \right] + \right]$$

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

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

$$\left[\sqrt{-\frac{-d \, e + c \, f}{f}} \, \left(-d \, g + c \, h\right) \, \sqrt{\left(f + \frac{d \, e - c \, f}{c + d \, x}\right) \, \left(h + \frac{d \, g - c \, h}{c + d \, x}\right)} \right] + \right]$$

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

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

$$\label{eq:final_continuous_con$$

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

$$8 \, \dot{\mathbb{1}} \, \, b^3 \, \, c \, \, C \, \, d^3 \, \, e^2 \, \, f \, g \, \, h^3 \, \, \sqrt{ \, 1 - \frac{- \, d \, \, e + c \, \, f}{f \, \, \left(\, c \, + \, d \, \, x \, \right)} } \, \, \, \sqrt{ \, 1 - \frac{- \, d \, \, g \, + \, c \, \, h}{h \, \, \left(\, c \, + \, d \, \, x \, \right)} }$$

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

$$\label{eq:final_continuous_con$$

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

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

$$\begin{split} & \text{EllipticF} \Big[\text{i} \, \text{ArcSinh} \Big[\frac{\sqrt{-\frac{-d \, \text{e} \, \text{c} \, \text{f}}{f}}}{\sqrt{c + d \, \text{x}}} \Big], \, \frac{f \, \left(-d \, \text{g} \, + c \, \text{h} \right)}{\left(-d \, \text{e} \, + c \, \text{f} \right) \, h} \Big] \Bigg] \Bigg/ \\ & \left(\sqrt{-\frac{-d \, \text{e} \, + c \, \text{f}}{f}} \, \left(-d \, \text{g} \, + c \, \text{h} \right) \, \sqrt{\left(f \, + \frac{d \, \text{e} \, - c \, \text{f}}{c \, + d \, \text{x}} \right) \, \left(h \, + \frac{d \, \text{g} \, - c \, \text{h}}{c \, + d \, \text{x}} \right)} \, \right] - \\ & \left[10 \, \text{i} \, \text{a} \, \text{b}^2 \, \text{C} \, \text{d}^4 \, \text{e}^2 \, \text{f} \, \text{g} \, \text{h}^3 \, \sqrt{1 - \frac{-d \, \text{e} \, + c \, \text{f}}{f} \, \left(c \, + d \, \text{x} \right)}} \, \sqrt{1 - \frac{-d \, \text{g} \, + c \, \text{h}}{h \, \left(c \, + d \, \text{x} \right)}} \, \right] - \\ & \left[\text{EllipticE} \Big[\, \text{i} \, \text{ArcSinh} \Big[\, \frac{\sqrt{-\frac{-d \, \text{e} \, + c \, \text{f}}{f}}}{\sqrt{c \, + d \, \text{x}}} \, \Big], \, \frac{f \, \left(-d \, \text{g} \, + c \, \text{h} \right)}{\left(-d \, \text{e} \, + c \, \text{f} \right) \, h} \, \Big] \right] \right/ \\ & \left[i \, \text{b}^3 \, \text{c}^2 \, \text{C} \, \text{d}^2 \, \text{e} \, \text{f}^2 \, \text{g} \, \text{h}^3 \, \sqrt{1 - \frac{-d \, \text{e} \, + c \, \text{f}}{f \, \left(c \, + d \, \text{x} \right)}} \, \sqrt{1 - \frac{-d \, \text{g} \, + c \, \text{h}}{h \, \left(c \, + d \, \text{x} \right)}} \, \right] + \\ & \left[i \, \text{b}^3 \, \text{c}^2 \, \text{C} \, \text{d}^2 \, \text{e} \, \text{f}^2 \, \text{g} \, \text{h}^3 \, \sqrt{1 - \frac{-d \, \text{e} \, + c \, \text{f}}{f \, \left(c \, + d \, \text{x} \right)}} \, \sqrt{1 - \frac{-d \, \text{g} \, + c \, \text{h}}{h \, \left(c \, + d \, \text{x} \right)}} \, \right] + \\ & \left[\text{EllipticE} \Big[\, i \, \text{ArcSinh} \Big[\, \frac{\sqrt{-\frac{-d \, \text{e} \, + c \, \text{f}}{f \, \left(c \, + d \, \text{x} \right)}}{\sqrt{c \, + d \, \text{x}}} \, \right], \, \frac{f \, \left(-d \, \text{g} \, + c \, \text{h} \right)}{\left(-d \, \text{e} \, + c \, \text{f} \right) \, h} \, \right] \right] \right. \right] \right. \\ & \text{EllipticF} \Big[\, i \, \text{ArcSinh} \Big[\, \frac{\sqrt{-\frac{-d \, \text{e} \, + c \, \text{f}}{f \, \left(c \, + d \, \text{x} \right)}} \, \right], \, \frac{f \, \left(-d \, \text{g} \, + c \, \text{h} \right)}{\left(-d \, \text{e} \, + c \, \text{f} \right) \, h} \, \right] \right. \right] \right. \\ & \text{EllipticF} \Big[\, i \, \text{ArcSinh} \Big[\, \frac{\sqrt{-\frac{-d \, \text{e} \, + c \, \text{f}}}{f \, \left(c \, + d \, \text{x} \right)} \, \right], \, \frac{f \, \left(-d \, \text{g} \, + c \, \text{h} \right)}{\left(-d \, \text{e} \, + c \, \text{f} \right) \, h} \, \right] \right. \right] \right.$$

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

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

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

$$\left[\text{EllipticE} \left[\, \dot{\mathbb{I}} \, \, \text{ArcSinh} \left[\, \frac{\sqrt{-\, \frac{-d\, e + c\, f}{f}}}{\sqrt{\, c + d\, x}} \, \right] \, , \, \, \frac{f\, \left(-d\, g + c\, h \right)}{\left(-d\, e + c\, f \right)\, h} \, \right] \, - \right] \, .$$

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

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

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

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

$$\left[\sqrt{-\frac{-d \, e + c \, f}{f}} \left(-d \, g + c \, h\right) \sqrt{\left(f + \frac{d \, e - c \, f}{c + d \, x}\right) \left(h + \frac{d \, g - c \, h}{c + d \, x}\right)} \right] - \right]$$

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

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

$$\left[\sqrt{-\frac{-d \, e + c \, f}{f}} \left(-d \, g + c \, h\right) \sqrt{\left(f + \frac{d \, e - c \, f}{c + d \, x}\right) \left(h + \frac{d \, g - c \, h}{c + d \, x}\right)} \right] - \left[\text{ i } b^3 \, c^3 \, C \, d \, f^3 \, g \, h^3 \sqrt{1 - \frac{-d \, e + c \, f}{f \, \left(c + d \, x\right)}} \sqrt{1 - \frac{-d \, g + c \, h}{h \, \left(c + d \, x\right)}} \right]$$

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

$$\label{eq:final_continuous_con$$

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

$$\left[\text{EllipticE} \left[\text{i ArcSinh} \left[\frac{\sqrt{-\frac{-d\,e_{+}c\,f}{f}}}{\sqrt{c_{+}d\,x_{-}}} \right], \frac{f\left(-d\,g_{+}c\,h\right)}{\left(-d\,e_{+}c\,f\right)\,h} \right] - \right]$$

$$\label{eq:final_continuous_con$$

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

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

$$\begin{split} & \text{EllipticF} \big[\text{i} \, \text{ArcSinh} \big[\frac{\sqrt{-\frac{-\text{de-cf}}{f}}}{\sqrt{c+dx}} \big], \, \frac{f \left(-\text{d} \, g + c \, h \right)}{\left(-\text{de+cf} \, h \, h \right)} \bigg] \bigg] \bigg/ \\ & \left(\sqrt{-\frac{-\text{de+cf}}{f}} \, \left(-\text{d} \, g + c \, h \right) \, \sqrt{\left(f + \frac{\text{de-cf}}{c+dx} \right) \left(h + \frac{\text{d} \, g - c \, h}{c+dx} \right)} \, \right) - \\ & \left[8 \, \text{i} \, b^3 \, c \, C \, d^3 \, e^3 \, h^4 \, \sqrt{1 - \frac{-\text{de+cf}}{f}} \, \sqrt{1 - \frac{-\text{d} \, g + c \, h}{h \, \left(c + dx \right)}} \right] \\ & \left[\text{EllipticE} \big[\text{i} \, \text{ArcSinh} \big[\frac{\sqrt{-\frac{-\text{de+cf}}{f}}}{\sqrt{c+dx}} \big], \, \frac{f \left(-\text{d} \, g + c \, h \right)}{\left(-\text{d} \, e + c \, f \right) \, h} \right] - \\ & \left[\text{EllipticF} \big[\text{i} \, \text{ArcSinh} \big[\frac{\sqrt{-\frac{-\text{de+cf}}{f}}}{\sqrt{c+dx}} \big], \, \frac{f \left(-\text{d} \, g + c \, h \right)}{\left(-\text{d} \, e + c \, f \right) \, h} \right] \right] \bigg/ \\ & \left[\text{i} \, b^3 \, c^2 \, C \, d^2 \, e^2 \, f \, h^4 \, \sqrt{1 - \frac{-\text{d} \, e + c \, f}{f \, \left(c + dx \right)}} \, \sqrt{1 - \frac{-\text{d} \, g + c \, h}{h \, \left(c + dx \right)}} \right] \\ & \left[\text{EllipticE} \big[\text{i} \, \text{ArcSinh} \big[\frac{\sqrt{-\frac{-\text{de+cf}}{f}}}{\sqrt{c+dx}} \big], \, \frac{f \left(-\text{d} \, g + c \, h \right)}{\left(-\text{d} \, e + c \, f \right) \, h} \right] - \\ & \text{EllipticF} \big[\text{i} \, \text{ArcSinh} \big[\frac{\sqrt{-\frac{-\text{de+cf}}{f}}}{\sqrt{c+dx}} \big], \, \frac{f \left(-\text{d} \, g + c \, h \right)}{\left(-\text{d} \, e + c \, f \right) \, h} \big] \right] \bigg/ \\ \end{aligned}$$

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

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

$$\label{eq:final_continuous_con$$

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

$$\left[\text{EllipticE} \left[\, \dot{\mathbb{I}} \, \, \text{ArcSinh} \left[\, \frac{\sqrt{-\, \frac{-d\, e + c\, f}{f}}}{\sqrt{\, c + d\, x}} \, \right] \, , \, \, \frac{f\, \left(-d\, g + c\, h \right)}{\left(-d\, e + c\, f \right)\, h} \, \right] \, - \right] \, .$$

$$\label{eq:final_continuous_con$$

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

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

$$\left[EllipticE \left[i \ ArcSinh \left[\frac{\sqrt{-\frac{-d \ e + c \ f}{f}}}{\sqrt{c + d \ x}} \right], \frac{f \left(-d \ g + c \ h \right)}{\left(-d \ e + c \ f \right) \ h} \right] - \right]$$

$$EllipticE \left[i \ ArcSinh \left[\frac{\sqrt{-\frac{-d \ e + c \ f}{f}}}{\sqrt{c + d \ x}} \right], \frac{f \left(-d \ g + c \ h \right)}{\left(-d \ e + c \ f \right) \ h} \right]$$

$$\left[\sqrt{-\frac{-d \ e + c \ f}{f}} \ \left(-d \ g + c \ h \right) \ \sqrt{\left(f + \frac{d \ e - c \ f}{c + d \ x} \right) \left(h + \frac{d \ g - c \ h}{c + d \ x} \right)} \right] - \right]$$

$$\left[ArcSinh \left[\frac{\sqrt{-\frac{-d \ e + c \ f}{f}}}{\sqrt{c + d \ x}} \right], \frac{f \left(-d \ g + c \ h \right)}{\left(-d \ e + c \ f \right) \ h} \right] - \right]$$

$$\left[EllipticE \left[i \ ArcSinh \left[\frac{\sqrt{-\frac{-d \ e + c \ f}{f}}}{\sqrt{c + d \ x}} \right], \frac{f \left(-d \ g + c \ h \right)}{\left(-d \ e + c \ f \right) \ h} \right] - \right]$$

$$\left[\sqrt{-\frac{-d \ e + c \ f}{f}} \ \left(-d \ g + c \ h \right) \ \sqrt{\left(f + \frac{d \ e - c \ f}{c + d \ x} \right) \left(h + \frac{d \ g - c \ h}{c + d \ x} \right)} \right] +$$

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

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

$$\label{eq:final_continuous_con$$

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

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

$$\frac{\text{f}\left(-\text{d}\,\text{g}+\text{c}\,\text{h}\right)}{\left(-\text{d}\,\text{e}+\text{c}\,\text{f}\right)\,\text{h}}\big]-\text{EllipticF}\big[\,\text{i}\,\text{ArcSinh}\big[\,\frac{\sqrt{-\frac{-\text{d}\,\text{e}+\text{c}\,\text{f}}{\text{f}}}}{\sqrt{\,\text{c}+\text{d}\,\text{x}}}\big]\,\text{,}\,\,\frac{\text{f}\left(-\text{d}\,\text{g}+\text{c}\,\text{h}\right)}{\left(-\text{d}\,\text{e}+\text{c}\,\text{f}\right)\,\text{h}}\big]\,\bigg|\bigg|$$

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

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

$$\left[\sqrt{-\frac{-d\,e + c\,f}{f}} \; \left(-d\,g + c\,h \right) \; \sqrt{\left(f + \frac{d\,e - c\,f}{c + d\,x} \right) \left(h + \frac{d\,g - c\,h}{c + d\,x} \right)} \; \right] - \\ \left[10\,i\,a\,b^2\,c^3\,C\,d\,f^3\,h^4 \; \sqrt{1 - \frac{-d\,e + c\,f}{f} \; \left(c + d\,x \right)} \; \sqrt{1 - \frac{-d\,g + c\,h}{h\; \left(c + d\,x \right)}} \right] - \\ \left[EllipticE\left[i\,ArcSinh\left[\frac{\sqrt{-\frac{-d\,e + c\,f}{f}}}{\sqrt{c + d\,x}} \right], \; \frac{f\left(-d\,g + c\,h \right)}{\left(-d\,e + c\,f \right)\,h} \right] - \\ \left[EllipticF\left[i\,ArcSinh\left[\frac{\sqrt{-\frac{-d\,e + c\,f}{f}}}{\sqrt{c + d\,x}} \right], \; \frac{f\left(-d\,g + c\,h \right)}{\left(-d\,e + c\,f \right)\,h} \right] \right] \right] \right] - \\ \left[\sqrt{-\frac{-d\,e + c\,f}{f}} \; \left(-d\,g + c\,h \right) \; \sqrt{\left(f + \frac{d\,e - c\,f}{c + d\,x} \right) \left(h + \frac{d\,g - c\,h}{h\; \left(c + d\,x \right)} \right)} \right] + \\ \left[20\,i\,a\,b^2\,B\,c^2\,d^2\,f^3\,h^4 \; \sqrt{1 - \frac{-d\,e + c\,f}{f\; \left(c + d\,x \right)}} \; \sqrt{1 - \frac{-d\,g + c\,h}{h\; \left(c + d\,x \right)}} \right] - \\ EllipticE\left[i\,ArcSinh\left[\frac{\sqrt{-\frac{-d\,e + c\,f}{f}}}{\sqrt{c + d\,x}} \right], \; \frac{f\left(-d\,g + c\,h \right)}{\left(-d\,e + c\,f \right)\,h} \right] \right] \right] - \\ \left[\sqrt{-\frac{-d\,e + c\,f}{f}} \; \left(-d\,g + c\,h \right) \; \sqrt{\left(f + \frac{d\,e - c\,f}{c + d\,x} \right) \left(h + \frac{d\,g - c\,h}{c + d\,x} \right)} \right] - \\ \left[\sqrt{-\frac{-d\,e + c\,f}{f}} \; \left(-d\,g + c\,h \right) \; \sqrt{\left(f + \frac{d\,e - c\,f}{c + d\,x} \right) \left(h + \frac{d\,g - c\,h}{c + d\,x} \right)} \right] - \\ \left[\sqrt{-\frac{-d\,e + c\,f}{f}} \; \left(-d\,g + c\,h \right) \; \sqrt{\left(f + \frac{d\,e - c\,f}{c + d\,x} \right) \left(h + \frac{d\,g - c\,h}{c + d\,x} \right)} \right] - \\ \left[\sqrt{-\frac{-d\,e + c\,f}{f}} \; \left(-d\,g + c\,h \right) \; \sqrt{\left(f + \frac{d\,e - c\,f}{c + d\,x} \right) \left(h + \frac{d\,g - c\,h}{c + d\,x} \right)} \right] - \\ \left[\sqrt{-\frac{-d\,e + c\,f}{f}} \; \left(-d\,g + c\,h \right) \; \sqrt{\left(f + \frac{d\,e - c\,f}{c + d\,x} \right) \left(h + \frac{d\,g - c\,h}{c + d\,x} \right)} \right] - \\ \left[\sqrt{-\frac{-d\,e + c\,f}{f}} \; \left(-d\,g + c\,h \right) \; \sqrt{\left(f + \frac{d\,e - c\,f}{c + d\,x} \right) \left(h + \frac{d\,g - c\,h}{c + d\,x} \right)} \right] - \\ \left[\sqrt{-\frac{-d\,e + c\,f}{f}} \; \left(-d\,g + c\,h \right) \; \sqrt{\left(f + \frac{d\,e - c\,f}{c + d\,x} \right) \left(h + \frac{d\,g - c\,h}{c + d\,x} \right)} \right] - \\ \left[\sqrt{-\frac{-d\,e + c\,f}{f}} \; \left(-d\,g + c\,h \right) \; \sqrt{\left(f + \frac{d\,e - c\,f}{c + d\,x} \right) \left(h + \frac{d\,g - c\,h}{c + d\,x} \right)} \right] - \\ \left[\sqrt{-\frac{-d\,e + c\,f}{f}} \; \left(-d\,g + c\,h \right) \; \sqrt{\left(f + \frac{d\,e - c\,f}{c + d\,x} \right)} \right] \right] - \\ \left[\sqrt{-\frac{-d\,e + c\,f}{f}} \; \left(-d\,g + c\,h \right) \; \sqrt{\left(f + \frac{d\,e - c\,f}{c + d\,x} \right)} \right] - \\ \left[\sqrt{-\frac{-d\,e - c\,f}{f}} \; \left(-d\,g + c\,h \right) \; \sqrt{\left(f + \frac{d\,e -$$

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

$$\label{eq:final_continuous_con$$

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

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

$$\left(\sqrt{-\frac{-d\,e + c\,f}{f}} \ \sqrt{\left(f + \frac{d\,e - c\,f}{c + d\,x}\right) \left(h + \frac{d\,g - c\,h}{c + d\,x}\right)} \right) - \\ \left(4\,i\,b^3\,C\,d^3\,e^2\,f\,g\,h^2\,\sqrt{1 - \frac{-d\,e + c\,f}{f\left(c + d\,x\right)}} \ \sqrt{1 - \frac{-d\,g + c\,h}{h\left(c + d\,x\right)}} \right) \\ = EllipticF\left[i\,ArcSinh\left[\frac{\sqrt{-\frac{-d\,e + c\,f}{f}}}{\sqrt{c + d\,x}}\right], \frac{f\left(-d\,g + c\,h\right)}{\left(-d\,e + c\,f\right)\,h}\right] \right) \\ \left(\sqrt{-\frac{-d\,e + c\,f}{f}} \ \sqrt{\left(f + \frac{d\,e - c\,f}{c + d\,x}\right) \left(h + \frac{d\,g - c\,h}{c + d\,x}\right)} \right) + \\ \left[i\,b^3\,c\,C\,d^2\,e\,f^2\,g\,h^2\,\sqrt{1 - \frac{-d\,e + c\,f}{f\left(c + d\,x\right)}} \ \sqrt{1 - \frac{-d\,g + c\,h}{h\left(c + d\,x\right)}} \right] \\ \left(\sqrt{-\frac{-d\,e + c\,f}{f}} \ \sqrt{\left(f + \frac{d\,e - c\,f}{c + d\,x}\right) \left(h + \frac{d\,g - c\,h}{c + d\,x}\right)} \right) + \\ \left[5\,i\,b^3\,B\,d^3\,e\,f^2\,g\,h^2\,\sqrt{1 - \frac{-d\,e + c\,f}{f\left(c + d\,x\right)}} \ \sqrt{1 - \frac{-d\,g + c\,h}{h\left(c + d\,x\right)}} \right] \\ \left[EllipticF\left[i\,ArcSinh\left[\frac{\sqrt{-\frac{-d\,e + c\,f}{f}}}{f\left(c + d\,x\right)} \ \sqrt{1 - \frac{-d\,g + c\,h}{h\left(c + d\,x\right)}} \right] \right] \\ \left[\sqrt{-\frac{-d\,e + c\,f}{f}} \ \sqrt{\left(f + \frac{d\,e - c\,f}{c + d\,x}\right) \left(h + \frac{d\,g - c\,h}{c + c\,f\right)\,h}} \right] \right) \\ \left[\sqrt{-\frac{-d\,e + c\,f}{f}} \ \sqrt{\left(f + \frac{d\,e - c\,f}{c + d\,x}\right) \left(h + \frac{d\,g - c\,h}{c + d\,x}\right)} \right) + \\ \left[\sqrt{-\frac{-d\,e + c\,f}{f}} \ \sqrt{\left(f + \frac{d\,e - c\,f}{c + d\,x}\right) \left(h + \frac{d\,g - c\,h}{c + d\,x}\right)} \right) + \\ \left[\sqrt{-\frac{-d\,e + c\,f}{f}} \ \sqrt{\left(f + \frac{d\,e - c\,f}{c + d\,x}\right) \left(h + \frac{d\,g - c\,h}{c + d\,x}\right)} \right) + \\ \left[\sqrt{-\frac{-d\,e + c\,f}{f}} \ \sqrt{\left(f + \frac{d\,e - c\,f}{c + d\,x}\right) \left(h + \frac{d\,g - c\,h}{c + d\,x}\right)} \right] + \\ \left[\sqrt{-\frac{-d\,e + c\,f}{f}} \ \sqrt{\left(f + \frac{d\,e - c\,f}{c + d\,x}\right) \left(h + \frac{d\,g - c\,h}{c + d\,x}\right)} \right] + \\ \left[\sqrt{-\frac{-d\,e + c\,f}{f}} \ \sqrt{\left(f + \frac{d\,e - c\,f}{c + d\,x}\right) \left(h + \frac{d\,g - c\,h}{c + d\,x}\right)} \right] + \\ \left[\sqrt{-\frac{-d\,e + c\,f}{f}} \ \sqrt{\left(f + \frac{d\,e - c\,f}{c + d\,x}\right) \left(h + \frac{d\,g - c\,h}{c + d\,x}\right)} \right] + \\ \left[\sqrt{-\frac{-d\,e + c\,f}{f}} \ \sqrt{\left(f + \frac{d\,e - c\,f}{c + d\,x}\right) \left(h + \frac{d\,g - c\,h}{c + d\,x}\right)}} \right] + \\ \left[\sqrt{-\frac{-d\,e + c\,f}{f}} \ \sqrt{\left(f + \frac{d\,e - c\,f}{c + d\,x}\right) \left(h + \frac{d\,g - c\,h}{c + d\,x}\right)}} \right] + \\ \left[\sqrt{-\frac{-d\,e + c\,f}{f}} \ \sqrt{\left(f + \frac{d\,e - c\,f}{c + d\,x}\right) \left(h + \frac{d\,g - c\,h}{c + d\,x}\right)}} \right] + \\ \left[\sqrt{-\frac{-d\,e + c\,f}{f}} \ \sqrt{\left(f + \frac{d\,e - c\,f}{c + d\,x}\right) \left(h + \frac{d\,g - c\,h}{c + d\,x}\right)}} \right] + \\ \left[\sqrt{-\frac{-d\,e + c\,f}{f}} \ \sqrt{\left(f + \frac{d\,e - c\,f}{c + d\,x}\right) \left(h + \frac$$

$$\label{eq:final_continuous_con$$

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

$$\label{eq:final_continuous_con$$

$$\left(\sqrt{-\frac{-d\,e + c\,f}{f}} \ \sqrt{\left(f + \frac{d\,e - c\,f}{c + d\,x} \right) \, \left(h + \frac{d\,g - c\,h}{c + d\,x} \right)} \ \right) - \left(\frac{-d\,e + c\,f}{f} \right) = 0$$

$$\label{eq:final_continuous_con$$

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

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

$$\label{eq:final_continuous_con$$

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

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

$$\label{eq:final_continuous_con$$

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

$$\label{eq:final_continuous_con$$

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

$$8 \, \dot{\mathbb{1}} \, \, b^3 \, c^3 \, C \, f^3 \, h^3 \, \sqrt{ 1 - \frac{-\, d \, e + c \, f}{f \, \left(c + d \, x \right)} } \, \, \sqrt{ 1 - \frac{-\, d \, g + c \, h}{h \, \left(c + d \, x \right)} }$$

$$\label{eq:final_continuous_con$$

$$\sqrt{1 - \frac{-d\,g + c\,h}{h\,\left(c + d\,x\right)}} \; EllipticF\left[i\,ArcSinh\left[\frac{\sqrt{-\frac{-d\,e + c\,f}{f}}}{\sqrt{c + d\,x}}\right], \frac{f\,\left(-d\,g + c\,h\right)}{\left(-d\,e + c\,f\right)\,h}\right] \bigg] /$$

$$\left(\sqrt{-\frac{-d\,e + c\,f}{f}} \; \sqrt{\left(f + \frac{d\,e - c\,f}{c + d\,x}\right) \left(h + \frac{d\,g - c\,h}{c + d\,x}\right)} \right) -$$

$$\left[10\,i\,a\,b^2\,c^2\,C\,d\,f^3\,h^3 \; \sqrt{1 - \frac{-d\,e + c\,f}{f\,\left(c + d\,x\right)}} \; \sqrt{1 - \frac{-d\,g + c\,h}{h\,\left(c + d\,x\right)}} \right]$$

$$\left(\sqrt{-\frac{-d\,e + c\,f}{f}} \; \sqrt{\left(f + \frac{d\,e - c\,f}{c + d\,x}\right) \left(h + \frac{d\,g - c\,h}{c + d\,x}\right)} \right] +$$

$$\left[30\,i\,a\,b^2\,B\,c\,d^2\,f^3\,h^3 \; \sqrt{1 - \frac{-d\,e + c\,f}{f\,\left(c + d\,x\right)}} \; \sqrt{1 - \frac{-d\,g + c\,h}{h\,\left(c + d\,x\right)}} \right]$$

$$\left[11ipticF\left[i\,ArcSinh\left[\frac{\sqrt{-\frac{-d\,e + c\,f}{f}}}{f\,\left(c + d\,x\right)}\right], \frac{f\,\left(-d\,g + c\,h\right)}{\left(-d\,e + c\,f\right)\,h}\right] /$$

$$\left[\sqrt{-\frac{-d\,e + c\,f}{f}} \; \sqrt{\left(f + \frac{d\,e - c\,f}{c + d\,x}\right) \left(h + \frac{d\,g - c\,h}{c + d\,x}\right)} \right] -$$

$$\left[15\,i\,a^2\,b\,c\,C\,d^2\,f^3\,h^3 \; \sqrt{1 - \frac{-d\,e + c\,f}{f\,\left(c + d\,x\right)}} \; \sqrt{1 - \frac{-d\,g + c\,h}{h\,\left(c + d\,x\right)}} \right]$$

$$\begin{split} & \text{EllipticF} \left[\text{i} \, \text{ArcSinh} \left[\frac{\sqrt{-\frac{-d \, e + c \, f}{f}}}{\sqrt{c + d \, x}} \right], \, \frac{f \left(-d \, g + c \, h \right)}{\left(-d \, e + c \, f \right) \, h} \right] \right] \\ & \left(\sqrt{-\frac{-d \, e + c \, f}{f}} \, \sqrt{\left(f + \frac{d \, e - c \, f}{c + d \, x} \right) \left(h + \frac{d \, g - c \, h}{c + d \, x} \right)} \, - \right. \\ & \left. \left(15 \, \text{i} \, a^2 \, b \, B \, d^3 \, f^3 \, h^3 \, \sqrt{1 - \frac{-d \, e + c \, f}{f} \left(c + d \, x \right)} \, \sqrt{1 - \frac{-d \, g + c \, h}{h \left(c + d \, x \right)}} \right] \right. \\ & \left. \left(15 \, \text{i} \, a^3 \, C \, d^3 \, f^3 \, h^3 \, \sqrt{1 - \frac{-d \, e + c \, f}{c + d \, x}} \, \right) \, \left(h + \frac{d \, g - c \, h}{c + d \, x} \right) \, \right. \right) \\ & \left. \left(15 \, \text{i} \, a^3 \, C \, d^3 \, f^3 \, h^3 \, \sqrt{1 - \frac{-d \, e + c \, f}{c \left(c + d \, x \right)}} \, \sqrt{1 - \frac{-d \, g + c \, h}{h \left(c + d \, x \right)}} \right. \right) \\ & \left. \left(15 \, \text{i} \, a^3 \, C \, d^3 \, f^3 \, h^3 \, \sqrt{1 - \frac{-d \, e + c \, f}{f \left(c + d \, x \right)}} \, \sqrt{1 - \frac{-d \, g + c \, h}{h \left(c + d \, x \right)}} \right. \right] \right. \\ & \left. \left(15 \, \text{i} \, a^3 \, C \, d^3 \, f^3 \, h^3 \, \sqrt{1 - \frac{-d \, e + c \, f}{f \left(c + d \, x \right)}} \, \sqrt{1 - \frac{-d \, g + c \, h}{h \left(c + d \, x \right)}} \right. \right] \right. \\ & \left. \left(15 \, \text{i} \, a^3 \, C \, d^3 \, f^3 \, h^3 \, \sqrt{1 - \frac{-d \, e + c \, f}{f \left(c + d \, x \right)}} \, \sqrt{1 - \frac{-d \, g + c \, h}{h \left(c + d \, x \right)}} \right. \right) \right. \\ & \left. \left(15 \, \text{i} \, a^3 \, C \, d^3 \, f^3 \, h^3 \, \sqrt{1 - \frac{-d \, e + c \, f}{f \left(c + d \, x \right)}} \, \sqrt{1 - \frac{-d \, g + c \, h}{h \left(c + d \, x \right)}} \right) \right. \\ & \left. \left(15 \, \text{i} \, a^3 \, C \, d^3 \, f^3 \, h^3 \, \sqrt{1 - \frac{-d \, e + c \, f}{f \left(c + d \, x \right)}} \, \sqrt{1 - \frac{-d \, g + c \, h}{h \left(c + d \, x \right)}} \right) \right. \right. \\ & \left. \left(15 \, \text{i} \, a^3 \, C \, d^3 \, f^3 \, h^3 \, \sqrt{1 - \frac{-d \, e + c \, f}{f \left(c + d \, x \right)}} \, \sqrt{1 - \frac{-d \, g + c \, h}{h \left(c + d \, x \right)}} \right) \right. \\ & \left. \left(15 \, \text{i} \, a^3 \, C \, d^3 \, f^3 \, h^3 \, \sqrt{1 - \frac{-d \, e + c \, f}{f \left(c + d \, x \right)}} \, \sqrt{1 - \frac{-d \, g + c \, h}{h \left(c + d \, x \right)}} \right) \right. \\ & \left. \left(15 \, \text{i} \, a^3 \, C \, d^3 \, f^3 \, h^3 \, \sqrt{1 - \frac{-d \, e + c \, f}{f \left(c + d \, x \right)}} \, \sqrt{1 - \frac{-d \, g + c \, h}{h \left(c + d \, x \right)}} \right) \right. \\ & \left. \left(15 \, \text{i} \, a^3 \, C \, d^3 \, f^3 \, h^3 \, \sqrt{1 - \frac{-d \, e + c \, f}{f \left(c + d \, x \right)}} \right) \right. \\ & \left. \left(15 \, \text{i} \, a^3 \, C \, d^3 \, f^3 \, h^3 \, \sqrt{1 - \frac{-d \,$$

Problem 17: Result unnecessarily involves imaginary or complex numbers.

$$\int \frac{a\; b\; B\; -\; a^2\; C\; +\; b^2\; B\; x\; +\; b^2\; C\; x^2}{\sqrt{c\; +\; d\; x}\;\; \sqrt{e\; +\; f\; x}\;\; \sqrt{g\; +\; h\; x}}\; \, \text{d}\; x$$

Optimal (type 4, 410 leaves, 7 steps):

$$\frac{2\,b^2\,C\,\sqrt{c\,+\,d\,x}\,\,\sqrt{e\,+\,f\,x}\,\,\sqrt{g\,+\,h\,x}}{3\,d\,f\,h} + \\ \left(2\,b^2\,\sqrt{-\,d\,e\,+\,c\,f}\,\,\left(3\,B\,d\,f\,h\,-\,2\,C\,\left(d\,f\,g\,+\,d\,e\,h\,+\,c\,f\,h\right)\right)\,\,\sqrt{\frac{d\,\left(e\,+\,f\,x\right)}{d\,e\,-\,c\,f}}\,\,\sqrt{g\,+\,h\,x}} \right. \\ \left. EllipticE\left[ArcSin\left[\frac{\sqrt{f}\,\,\sqrt{c\,+\,d\,x}}{\sqrt{-\,d\,e\,+\,c\,f}}\right],\,\,\frac{\left(d\,e\,-\,c\,f\right)\,h}{f\,\left(d\,g\,-\,c\,h\right)}\right]\right) \bigg/\,\,\left(3\,d^2\,f^{3/2}\,h^2\,\sqrt{e\,+\,f\,x}\,\,\sqrt{\frac{d\,\left(g\,+\,h\,x\right)}{d\,g\,-\,c\,h}}\,+ \\ \left(2\,\sqrt{-\,d\,e\,+\,c\,f}\,\,\left(3\,a\,b\,B\,d\,f\,h^2\,-\,3\,a^2\,C\,d\,f\,h^2\,-\,b^2\,\left(3\,B\,d\,f\,g\,h\,-\,C\,\left(c\,h\,\left(f\,g\,-\,e\,h\right)\,+\,d\,g\,\left(2\,f\,g\,+\,e\,h\right)\right)\right)\right) \\ \left(3\,d^2\,f^{3/2}\,h^2\,\sqrt{e\,+\,f\,x}\,\,\sqrt{g\,+\,h\,x}\,\right) \\ \left(3\,d^2\,f^{3/2}\,h^2\,\sqrt{e\,+\,f\,x}\,\,\sqrt{g\,+\,h\,x}\,\right) \\ \end{array}$$

Result (type 4, 569 leaves):

$$\frac{2\,b^2\,C\,\sqrt{c\,+\,d\,x}\,\,\sqrt{e\,+\,f\,x}\,\,\sqrt{g\,+\,h\,x}}{3\,d\,f\,h} + \frac{1}{3\,d^3\,\sqrt{-\,c\,+\,\frac{d\,e}{f}}}\,\,f^2\,h^2\,\sqrt{e\,+\,\frac{(c\,+\,d\,x)\,\,\left(f\,-\,\frac{c\,f}{c\,+\,d\,x}\right)}{d}}\,\,\sqrt{g\,+\,\frac{(c\,+\,d\,x)\,\,\left(h\,-\,\frac{c\,h}{c\,+\,d\,x}\right)}{d}}\,\,\left(c\,+\,d\,x\right)^{3/2}}\,\left(-2\,b^2\,\sqrt{-\,c\,+\,\frac{d\,e}{f}}\right) \\ \left(-3\,B\,d\,f\,h\,+\,2\,C\,\,\left(d\,f\,g\,+\,d\,e\,h\,+\,c\,f\,h\right)\,\right)\,\,\left(f\,+\,\frac{d\,e}{c\,+\,d\,x}\,-\,\frac{c\,f}{c\,+\,d\,x}\right)\,\,\left(h\,+\,\frac{d\,g}{c\,+\,d\,x}\,-\,\frac{c\,h}{c\,+\,d\,x}\right)\,-\,\frac{1}{\sqrt{c\,+\,d\,x}}} \\ 2\,\dot{\imath}\,\,b^2\,\,\left(-d\,e\,+\,c\,f\right)\,h\,\,\left(3\,B\,d\,f\,h\,-\,2\,C\,\,\left(d\,f\,g\,+\,d\,e\,h\,+\,c\,f\,h\right)\,\right)\,\,\sqrt{1\,-\,\frac{c}{c\,+\,d\,x}\,+\,\frac{d\,e}{f\,\,(c\,+\,d\,x)}}} \\ \sqrt{1\,-\,\frac{c}{c\,+\,d\,x}\,+\,\frac{d\,g}{h\,\,\left(c\,+\,d\,x\right)}}}\,\,EllipticE\,\left[\,\dot{\imath}\,ArcSinh\,\left[\,\frac{\sqrt{-\,c\,+\,\frac{d\,e}{f}}}{\sqrt{c\,+\,d\,x}}\,\right]\,,\,\,\frac{d\,f\,g\,-\,c\,f\,h}{d\,e\,h\,-\,c\,f\,h}\,\right]\,+\,\frac{1}{\sqrt{c\,+\,d\,x}}} \\ 2\,\dot{\imath}\,\,d\,h\,\,\left(3\,a\,b\,B\,d\,f^2\,h\,-\,3\,a^2\,C\,d\,f^2\,h\,+\,b^2\,\left(-3\,B\,d\,e\,f\,h\,+\,c\,C\,f\,\left(-f\,g\,+\,e\,h\right)\,+\,C\,d\,e\,\,\left(f\,g\,+\,2\,e\,h\right)\,\right)\,\right)} \\ \sqrt{1\,-\,\frac{c}{c\,+\,d\,x}\,+\,\frac{d\,e}{f\,\,(c\,+\,d\,x)}}\,\,\sqrt{1\,-\,\frac{c}{c\,+\,d\,x}\,+\,\frac{d\,g}{h\,\,(c\,+\,d\,x)}}} \\ EllipticF\,\left[\,\dot{\imath}\,ArcSinh\,\left[\,\frac{\sqrt{-\,c\,+\,\frac{d\,e}{f}}}{\sqrt{c\,+\,d\,x}}\,\right]\,,\,\,\frac{d\,f\,g\,-\,c\,f\,h}{d\,e\,h\,-\,c\,f\,h}\,\right]} \\ \\ EllipticF\,\left[\,\dot{\imath}\,ArcSinh\,\left[\,\frac{\sqrt{-\,c\,+\,\frac{d\,e}{f}}}{\sqrt{c\,+\,d\,x}}\,\right]\,,\,\,\frac{d\,f\,g\,-\,c\,f\,h}{d\,e\,h\,-\,c\,f\,h}\,\right] \\ \end{array}$$

Problem 18: Result unnecessarily involves imaginary or complex numbers.

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

Optimal (type 4, 291 leaves, 7 steps):

$$\left[2\,b\,C\,\sqrt{-\,d\,e + c\,f} \,\,\sqrt{\frac{d\,\left(e + f\,x\right)}{d\,e - c\,f}} \,\,\sqrt{g + h\,x} \,\,\, \text{EllipticE} \left[\text{ArcSin} \left[\, \frac{\sqrt{f}\,\,\sqrt{c + d\,x}}{\sqrt{-d\,e + c\,f}} \, \right] \,, \, \frac{\left(d\,e - c\,f\right)\,h}{f\,\left(d\,g - c\,h\right)} \,\right] \right] / \left[d\,\sqrt{f}\,\,h\,\sqrt{e + f\,x} \,\,\,\sqrt{\frac{d\,\left(g + h\,x\right)}{d\,g - c\,h}} \,\, - \left[2\,\sqrt{-\,d\,e + c\,f} \,\,\left(b\,C\,g - b\,B\,h + a\,C\,h\right) \,\,\,\sqrt{\frac{d\,\left(e + f\,x\right)}{d\,e - c\,f}} \,\,\,\sqrt{\frac{d\,\left(g + h\,x\right)}{d\,g - c\,h}} \,\, \right] \right] / \left(d\,\sqrt{f}\,\,h\,\sqrt{e + f\,x}\,\,\sqrt{g + h\,x} \,\,\right)$$

$$= \text{EllipticF} \left[\text{ArcSin} \left[\, \frac{\sqrt{f}\,\,\sqrt{c + d\,x}}{\sqrt{-d\,e + c\,f}} \,\right] \,, \, \frac{\left(d\,e - c\,f\right)\,h}{f\,\left(d\,g - c\,h\right)} \,\right] / \left(d\,\sqrt{f}\,\,h\,\sqrt{e + f\,x}\,\,\sqrt{g + h\,x}\right)$$

Result (type 4, 326 leaves):

$$\left[2 \left[b \, C \, d^2 \, \sqrt{-c + \frac{d \, e}{f}} \, \left(e + f \, x \right) \, \left(g + h \, x \right) + i \, b \, C \, \left(d \, e - c \, f \right) \, h \, \left(c + d \, x \right)^{3/2} \, \sqrt{\frac{d \, \left(e + f \, x \right)}{f \, \left(c + d \, x \right)}} \, \sqrt{\frac{d \, \left(g + h \, x \right)}{h \, \left(c + d \, x \right)}} \right] \right]$$

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

$$\sqrt{\frac{d \, \left(e + f \, x \right)}{f \, \left(c + d \, x \right)}} \, \sqrt{\frac{d \, \left(g + h \, x \right)}{h \, \left(c + d \, x \right)}} \, EllipticF \left[i \, ArcSinh \left[\frac{\sqrt{-c + \frac{d \, e}{f}}}{\sqrt{c + d \, x}} \right] , \, \frac{d \, f \, g - c \, f \, h}{d \, e \, h - c \, f \, h} \right] \right]$$

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

Problem 19: Result unnecessarily involves imaginary or complex numbers.

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

Optimal (type 4, 309 leaves, 10 steps):

$$\left[2\,C\,\sqrt{-d\,e + c\,f}\,\,\sqrt{\frac{d\,\left(e + f\,x\right)}{d\,e - c\,f}}\,\,\sqrt{\frac{d\,\left(g + h\,x\right)}{d\,g - c\,h}}\,\,\, \text{EllipticF}\left[\text{ArcSin}\left[\frac{\sqrt{f}\,\,\sqrt{c + d\,x}}{\sqrt{-d\,e + c\,f}}\right],\,\,\frac{\left(d\,e - c\,f\right)\,h}{f\,\left(d\,g - c\,h\right)}\right] \right] / \\ \left(d\,\sqrt{f}\,\,\sqrt{e + f\,x}\,\,\sqrt{g + h\,x}\,\right) - \\ \left[2\,\left(b\,B - 2\,a\,C\right)\,\sqrt{-d\,e + c\,f}\,\,\sqrt{\frac{d\,\left(e + f\,x\right)}{d\,e - c\,f}}\,\,\sqrt{\frac{d\,\left(g + h\,x\right)}{d\,g - c\,h}}\,\,\, \text{EllipticPi}\left[-\frac{b\,\left(d\,e - c\,f\right)}{\left(b\,c - a\,d\right)\,f},\,\, \right. \right. \\ \left. \text{ArcSin}\left[\frac{\sqrt{f}\,\,\sqrt{c + d\,x}}{\sqrt{-d\,e + c\,f}}\right],\,\,\frac{\left(d\,e - c\,f\right)\,h}{f\,\left(d\,g - c\,h\right)}\right] \right/ \left(\left(b\,c - a\,d\right)\,\sqrt{f}\,\,\sqrt{e + f\,x}\,\,\sqrt{g + h\,x}\right)$$

Result (type 4, 248 leaves):

$$\left(2 \; \dot{\mathbb{1}} \; \sqrt{e + f \, x} \; \sqrt{ \; \frac{d \; \left(g + h \, x\right)}{h \; \left(c + d \; x\right)} } \right.$$

$$\left(-\left(b\,c\,C-b\,B\,d+a\,C\,d\right)\,\text{EllipticF}\left[\,\dot{\mathbb{1}}\,\,\text{ArcSinh}\left[\,\,\frac{\sqrt{-\,c\,+\,\frac{d\,e}{f}}}{\sqrt{c\,+\,d\,x}}\,\right]\,,\,\,\frac{d\,f\,g-c\,f\,h}{d\,e\,h-c\,f\,h}\,\right]\,+\,\frac{d\,f\,g-c\,f\,h}{d\,e\,h-c\,f\,h}\,\left(-\,\frac{1}{2}\,\,\frac{d\,f\,g-c\,f\,h}{\sqrt{c\,+\,d\,x}}\,\right)\,+\,\frac{d\,f\,g-c\,f\,h}{d\,e\,h-c\,f\,h}\,\left(-\,\frac{1}{2}\,\,\frac{d\,f\,g-c\,f\,h}{\sqrt{c\,+\,d\,x}}\,\right)\,+\,\frac{d\,f\,g-c\,f\,h}{d\,e\,h-c\,f\,h}\,\left(-\,\frac{1}{2}\,\,\frac{d\,f\,g-c\,f\,h}{\sqrt{c\,+\,d\,x}}\,\right)\,+\,\frac{d\,f\,g-c\,f\,h}{d\,e\,h-c\,f\,h}\,\left(-\,\frac{1}{2}\,\,\frac{d\,f\,g-c\,f\,h}{\sqrt{c\,+\,d\,x}}\,\right)\,+\,\frac{d\,f\,g-c\,f\,h}{d\,e\,h-c\,f\,h}\,\left(-\,\frac{1}{2}\,\,\frac{d\,f\,g-c\,f\,h}{\sqrt{c\,+\,d\,x}}\,\right)\,+\,\frac{d\,f\,g-c\,f\,h}{d\,e\,h-c\,f\,h}\,\left(-\,\frac{1}{2}\,\,\frac{d\,f\,g-c\,f\,h}{\sqrt{c\,+\,d\,x}}\,\right)\,+\,\frac{d\,f\,g-c\,f\,h}{d\,e\,h-c\,f\,h}\,\left(-\,\frac{1}{2}\,\,\frac{d\,f\,g-c\,f\,h}{\sqrt{c\,+\,d\,x}}\,\right)\,+\,\frac{d\,f\,g-c\,f\,h}{d\,e\,h-c\,f\,h}\,\left(-\,\frac{1}{2}\,\,\frac{d\,f\,g-c\,f\,h}{\sqrt{c\,+\,d\,x}}\,\right)\,+\,\frac{d\,f\,g-c\,f\,h}{d\,e\,h-c\,f\,h}\,\left(-\,\frac{1}{2}\,\,\frac{d\,g\,g-c\,f\,h}{\sqrt{c\,+\,d\,x}}\,\right)\,+\,\frac{d\,f\,g-c\,f\,h}{d\,e\,h-c\,f\,h}\,\left(-\,\frac{1}{2}\,\,\frac{d\,g\,g-c\,f\,h}{\sqrt{c\,+\,d\,x}}\,\right)\,+\,\frac{d\,g\,g-c\,f\,h}{d\,e\,h-c\,f\,h}\,\left(-\,\frac{1}{2}\,\,\frac{d\,g\,g-c\,f\,h}{\sqrt{c\,+\,d\,x}}\,\right)\,+\,\frac{d\,g\,g-c\,f\,h}{d\,e\,h-c\,f\,h}\,\left(-\,\frac{1}{2}\,\,\frac{d\,g\,g-c\,f\,h}{\sqrt{c\,+\,d\,x}}\,\right)\,+\,\frac{d\,g\,g-c\,f\,h}{d\,e\,h-c\,f\,h}\,\left(-\,\frac{1}{2}\,\,\frac{d\,g\,g-c\,f\,h}{\sqrt{c\,+\,d\,x}}\,\right)\,+\,\frac{d\,g\,g-c\,f\,h}{d\,e\,h-c\,f\,h}\,\left(-\,\frac{1}{2}\,\,\frac{d\,g\,g-c\,f\,h}{\sqrt{c\,+\,d\,x}}\,\right)\,+\,\frac{d\,g\,g-c\,f\,h}{d\,e\,h-c\,f\,h}\,\left(-\,\frac{1}{2}\,\,\frac{d\,g\,g-c\,f\,h}{\sqrt{c\,+\,d\,x}}\,\right)\,+\,\frac{d\,g\,g-c\,f\,h}{d\,e\,h-c\,f\,h}\,\left(-\,\frac{1}{2}\,\,\frac{d\,g\,g-c\,f\,h}{\sqrt{c\,+\,d\,x}}\,\right)\,+\,\frac{d\,g\,g-c\,f\,h}{d\,e\,h-c\,f\,h}\,\left(-\,\frac{1}{2}\,\,\frac{d\,g\,g-c\,f\,h}{\sqrt{c\,+\,d\,x}}\,\right)\,+\,\frac{d\,g\,g-c\,f\,h}{d\,e\,h-c\,f\,h}\,\left(-\,\frac{1}{2}\,\,\frac{d\,g\,g-c\,f\,h}{\sqrt{c\,+\,d\,x}}\,\right)\,+\,\frac{d\,g\,g-c\,f\,h}{d\,e\,h-c\,f\,h}\,\left(-\,\frac{1}{2}\,\,\frac{d\,g\,g-c\,f\,h}{\sqrt{c\,+\,d\,x}}\,\right)\,+\,\frac{d\,g\,g-c\,f\,h}{d\,e\,h-c\,f\,h}\,\left(-\,\frac{1}{2}\,\,\frac{d\,g\,g-c\,f\,h}{\sqrt{c\,+\,d\,x}}\,\right)\,+\,\frac{d\,g\,g-c\,f\,h}{d\,e\,h-c\,f\,h}\,\left(-\,\frac{1}{2}\,\,\frac{d\,g\,g-c\,f\,h}{\sqrt{c\,+\,d\,x}}\,\right)\,+\,\frac{d\,g\,g-c\,f\,h}{d\,e\,h-c\,f\,h}\,\left(-\,\frac{1}{2}\,\,\frac{d\,g\,g-c\,f\,h}{\sqrt{c\,+\,d\,x}}\,\right)\,+\,\frac{d\,g\,g-c\,f\,h}{d\,e\,h-c\,f\,h}\,\left(-\,\frac{1}{2}\,\,\frac{d\,g\,g-c\,f\,h}{\sqrt{c\,+\,d\,x}}\,\right)\,+\,\frac{d\,g\,g-c\,f\,h}{d\,e\,h-c\,f\,h}\,\left(-\,\frac{1}{2}\,\,\frac{d\,g\,g-c\,f\,h}{\sqrt{c\,+\,d\,x}}\,\right)\,+\,\frac{d\,g\,g-c\,g\,h}{d\,e\,h-c\,f\,h}\,\left(-\,\frac{1}{2}\,\,\frac{d\,g\,g-c\,g\,h}{\sqrt{c\,+\,d\,x}}\,\right)\,+\,\frac{d\,g\,g-c\,g\,h}{d\,e\,h-c\,g\,h}\,\left(-\,\frac{1}{2}\,\,\frac{d\,g\,g-c\,g\,h}{\sqrt{c\,+\,d\,x}}\,\right)\,+\,\frac{d\,g\,g-c\,$$

$$\left(-\,b\,\,B\,+\,2\,\,a\,\,C\right)\,\,d\,\,EllipticPi\,\Big[\,\frac{\left(b\,\,c\,-\,a\,\,d\right)\,\,f}{b\,\,\left(-\,d\,\,e\,+\,c\,\,f\right)}\,\text{, ii ArcSinh}\,\Big[\,\frac{\sqrt{\,-\,c\,+\,\frac{d\,e}{f}\,}}{\sqrt{\,c\,+\,d\,\,x}}\,\Big]\,\text{, }\,\frac{d\,f\,g\,-\,c\,\,f\,h}{d\,\,e\,\,h\,-\,c\,\,f\,h}\,\Big]\,\Bigg)\Bigg/$$

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

Problem 20: Result unnecessarily involves complex numbers and more than twice size of optimal antiderivative.

$$\int \frac{a b B - a^2 C + b^2 B x + b^2 C x^2}{(a + b x)^3 \sqrt{c + d x} \sqrt{e + f x} \sqrt{g + h x}} dx$$

Optimal (type 4, 680 leaves, 13 steps):

$$\begin{split} &-\frac{b^2 \left(bB-2aC\right) \sqrt{c+dx}}{\left(bc-ad\right) \left(be-af\right) \left(bg-ah\right) \left(a+bx\right)} + \left[b \left(bB-2aC\right) \sqrt{f} \sqrt{-de+cf} \right. \\ &-\frac{d \left(e+fx\right)}{de-cf} \sqrt{g+hx} \; EllipticE \Big[ArcSin \Big[\frac{\sqrt{f} \sqrt{c+dx}}{\sqrt{-de+cf}} \Big], \; \frac{\left(de-cf\right) h}{f \left(dg-ch\right)} \Big] \right] / \\ &-\frac{d \left(e+fx\right)}{de-cf} \sqrt{g+hx} \; EllipticE \Big[ArcSin \Big[\frac{\sqrt{f} \sqrt{c+dx}}{\sqrt{-de+cf}} \Big], \; \frac{\left(de-cf\right) h}{f \left(dg-ch\right)} \Big] \right] / \\ &-\frac{d \left(g+hx\right)}{dg-ch} - \\ &-\frac{d \left(g+hx\right)}{\sqrt{-de+cf}} \sqrt{\frac{d \left(e+fx\right)}{dg-ch}} \sqrt{\frac{d \left(g+hx\right)}{dg-ch}} \; EllipticF \Big[\\ &-\frac{ArcSin \Big[\frac{\sqrt{f} \sqrt{c+dx}}{\sqrt{-de+cf}} \Big], \; \frac{\left(de-cf\right) h}{f \left(dg-ch\right)} \Big] / \left(\left(bc-ad\right) \left(be-af\right) \sqrt{e+fx} \sqrt{g+hx} \right) - \\ &-\frac{d \left(g+fx\right)}{\sqrt{-de+cf}} \left(4a^3Cdfh+2ab^2B \left(dfg+deh+cfh\right) - b^3 \left(Bdeg-c \left(2Ceg-Bfg-Beh\right) \right) - \\ &-\frac{a^2b \left(3Bdfh+2C \left(dfg+deh+cfh\right) \right) \right) \sqrt{\frac{d \left(e+fx\right)}{de-cf}} \sqrt{\frac{d \left(g+hx\right)}{dg-ch}} \\ &-\frac{b \left(de-cf\right)}{\left(bc-ad\right)f}, ArcSin \Big[\frac{\sqrt{f} \sqrt{c+dx}}{\sqrt{-de+cf}} \Big], \; \frac{\left(de-cf\right) h}{f \left(dg-ch\right)} \Big] / \\ &-\frac{\left(bc-ad\right)^2 \sqrt{f} \left(be-af\right) \left(bg-ah\right) \sqrt{e+fx} \sqrt{g+hx}}{\sqrt{g+hx}} \right) - \\ &-\frac{d \left(bc-ad\right)^2 \sqrt{f} \left(be-af\right) \left(bg-ah\right) \sqrt{e+fx}}{\sqrt{g+hx}} - \frac{d \left(bc-cf\right) h}{f \left(dg-ch\right)} \Big] / \\ &-\frac{d \left(bc-ad\right)^2 \sqrt{f} \left(be-af\right) \left(bg-ah\right) \sqrt{e+fx}}{\sqrt{g+hx}} - \frac{d \left(bc-cf\right) h}{f \left(dg-ch\right)} - \frac{$$

Result (type 4, 16821 leaves):

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

$$\sqrt{\left(fh + \frac{d^2eg}{\left(c + dx\right)^2} - \frac{cdfg}{\left(c + dx\right)^2} - \frac{cdeh}{\left(c + dx\right)^2} + \frac{c^2fh}{\left(c + dx\right)^2} + \frac{dfg}{c + dx} + \frac{deh}{c + dx} - \frac{2cfh}{c + dx} \right) } } \\ \left(\left(\left(bc - ad \right) h \left(-2 \, b^2 \, Ceg + b^2 \, Bfg + b^2 \, Beh - 2 \, ab \, Bfh + 2 \, a^2 \, Cfh \right) \right) \right) \\ \left(\left(-bg + ah \right) \sqrt{f + \frac{de}{c + dx}} - \frac{cf}{c + dx} \sqrt{h + \frac{dg}{c + dx}} - \frac{ch}{c + dx} \right) - \frac{b \left(bB - 2 \, aC \right) \left(de - cf \right) \sqrt{h + \frac{dg}{c + dx}} - \frac{ch}{c + dx} + \frac{b}{c + dx} - \frac{ch}{c + dx} + \frac{b}{c + dx} - \frac{cf}{c + dx} \right) } \\ \left(b \left(2b^3 \, cCeg - b^3 \, Bdeg - b^3 \, Bcfg + 2 \, ab^2 \, Bdfg - 2 \, a^2 \, bCdfg - b^3 \, Bceh + 2 \, ab^2 \, Bdeh - 2 \, a^2 \, bCdfg - b^3 \, Bceh + 2 \, ab^2 \, Bdeh - 2 \, a^2 \, bCdfg + 2 \, ab^2 \, Bdfh + 4 \, a^3 \, Cdfh \right) \\ \sqrt{h + \frac{dg}{c + dx}} - \frac{ch}{c + dx} \right) / \left(\left(-bg + ah \right) \left(b - \frac{bc}{c + dx} + \frac{ad}{c + dx} \right) \sqrt{f + \frac{de}{c + dx}} - \frac{cf}{c + dx} \right) \right) \\ \left(i \, b^2 \, Bd^2 \, efg \sqrt{1 - \frac{-de + cf}{f \, (c + dx)}} \sqrt{1 - \frac{-dg + ch}{h \, (c + dx)}} \left[\frac{h \, b^2 \, Bd^2 \, efg}{\sqrt{c + dx}} \right] - \frac{ellipticF \left[i \, ArcSinh \left[\sqrt{\frac{-dg + ch}{h}} \right] }{\sqrt{c + dx}} \right] \right) \\ \left(\left(bc - ad \right) \left(-de + cf \right) \sqrt{-\frac{-dg + ch}{h}} \sqrt{\left(fh + \frac{d^2 \, eg - cdfg - cdeh + c^2 fh}{\left(c + dx \right)^2} + \frac{dfg + deh - 2 \, cfh}{c + dx} \right) \right) - \frac{2i \, ab \, Cd^2 \, efg}{c + dx} \sqrt{1 - \frac{-de + cf}{f \, (c + dx)}} \right)$$

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

$$\sqrt{-\frac{-dg+ch}{h}} \sqrt{\left(fh + \frac{d^2eg-cdfg-cdeh+c^2fh}{(c+dx)^2} + \frac{dfg+deh-2cfh}{c+dx}\right)} - \frac{1}{h} \sqrt{\frac{-\frac{dg+ch}{h}}{f(c+dx)}} \sqrt{\frac{-\frac{-dg+ch}{h}}{h(c+dx)}}$$

$$\left[i \, b^2 \, B \, c \, d \, e \, fh \, \sqrt{1 - \frac{-d\, e + c \, f}{f(c+dx)}} \, \sqrt{1 - \frac{-d\, g+ch}{h(c+dx)}} \right] + \frac{1}{h} \sqrt{\frac{-\frac{-d\, g+ch}{h}}{h(c+dx)}} \sqrt{\frac{-\frac{-d\, g+ch}{h}}{h(c+dx)}} , \frac{1}{h} \sqrt{\frac{-\frac{-d\, g+ch}{h}}{h(c+dx)}} \sqrt{\frac{-\frac{-d\, g+ch}{h}}{h(c+dx)}} \right]$$

$$\left[\left(b \, c - a \, d \right) \, \left(-d\, e + c \, f \right) \, \sqrt{\frac{-\frac{-d\, g+ch}{h}}{h}}} \, \sqrt{\frac{-\frac{-d\, g+ch}{h}}{h(c+dx)}} \right] + \frac{1}{h} \sqrt{\frac{-\frac{-d\, g+ch}{h}}{h(c+dx)}} \sqrt{\frac{-\frac{-d\, g+ch}{h}}{h(c+dx)}} \right] + \frac{1}{h} \sqrt{\frac{-\frac{-d\, g+ch}{h}}{h(c+dx)}} \left[\frac{\sqrt{\frac{-\frac{-d\, g+ch}{h}}{h}}} {\sqrt{c+d\, x}} \right] + \frac{1}{h} \sqrt{\frac{-\frac{-d\, g+ch}{h}}{h(c+dx)}} \sqrt{\frac{-\frac{-d\, g+ch}{h}}{h(c+dx)}} \right] + \frac{1}{h} \sqrt{\frac{-\frac{-d\, g+ch}{h}}{h(c+dx)}} + \frac{1}{h} \sqrt{\frac{-\frac{-d\, g+ch}{h}}{h(c+dx)}} + \frac{1}{h} \sqrt{\frac{-\frac{-d\, g+ch}{h}}{h(c+dx)}}$$

$$\left[i \, b^2 \, B \, c^2 \, f^2 \, h \, \sqrt{1 - \frac{-d\, g+c\, f}{f(c+dx)}}} \, \sqrt{1 - \frac{-d\, g+c\, h}{h(c+d\, x)}} \, \right]$$

$$EllipticE \left[i \, ArcSinh \left(\frac{\sqrt{-\frac{-d\, g+c\, h}{h}}}{h(c+d\, x)} \right) + \frac{1}{h} \sqrt{\frac{-\frac{-d\, g+c\, h}{h}}{h(c+d\, x)}} \right]$$

$$\left[i \, b^2 \, B \, c^2 \, f^2 \, h \, \sqrt{1 - \frac{-d\, g+c\, f}{f(c+d\, x)}}} \, \sqrt{1 - \frac{-d\, g+c\, h}{h(c+d\, x)}}} \, \right]$$

$$\left[i \, b^2 \, B \, c^2 \, f^2 \, h \, \sqrt{1 - \frac{-d\, g+c\, f}{f(c+d\, x)}}} \, \sqrt{1 - \frac{-d\, g+c\, h}{h(c+d\, x)}}} \, \right]$$

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

$$\left(\left(b\,c\,-\,a\,d\right)\,\left(-d\,e\,+\,c\,f\right)\,\sqrt{-\frac{-d\,g\,+\,c\,h}{h}}\,\sqrt{\left(f\,h\,+\,\frac{d^2\,e\,g\,-\,c\,d\,f\,g\,-\,c\,d\,e\,h\,+\,c^2\,f\,h}{\left(c\,+\,d\,x\right)^2}} \,+\, \frac{d\,f\,g\,+\,d\,e\,h\,-\,2\,c\,f\,h}{c\,+\,d\,x} \,\bigg) - \left[2\,i\,a\,b\,c^2\,C\,f^2\,h\,\sqrt{1\,-\,\frac{-d\,g\,+\,c\,h}{f\left(c\,+\,d\,x\right)}}\,\right], \, \frac{\left(-d\,e\,+\,c\,f\right)\,h}{f\left(-d\,g\,+\,c\,h\right)} \,\bigg] - \frac{1}{f\left(-d\,g\,+\,c\,h\right)} \,\bigg] - \frac{1}{f\left($$

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

$$\label{eq:linear_continuity} \dot{\mathbb{I}} \ \text{ArcSinh} \left[\frac{\sqrt{-\frac{-d\,g_{+}c\,h}{h}}}{\sqrt{c+d\,x}} \right] \text{, } \frac{\left(-\,d\,e + c\,f\right)\,h}{f\,\left(-\,d\,g + c\,h\right)} \right] \Bigg/ \left(\left(b\,c - a\,d\right)\,\sqrt{-\frac{-\,d\,g + c\,h}{h}} \right)$$

$$\sqrt{\left(f\,h\,+\,\frac{\,d^{2}\,e\,g\,-\,c\,d\,f\,g\,-\,c\,d\,e\,h\,+\,c^{2}\,f\,h}{\,\left(\,c\,+\,d\,x\,\right)^{\,2}}\,+\,\frac{\,d\,f\,g\,+\,d\,e\,h\,-\,2\,c\,f\,h}{\,c\,+\,d\,x}\,\right)\,\right]\,+\,\frac{\,d\,f\,g\,+\,d\,e\,h\,-\,2\,c\,f\,h}{\,c\,+\,d\,x}}$$

$$\sqrt{\left(f\,h\,+\,\,\frac{\,d^2\,e\,g\,-\,c\,\,d\,f\,g\,-\,c\,\,d\,e\,\,h\,+\,\,c^2\,f\,h}{\left(\,c\,+\,d\,\,x\,\right)^{\,2}}\,+\,\,\frac{\,d\,f\,g\,+\,d\,e\,\,h\,-\,2\,\,c\,\,f\,h}{\,c\,+\,d\,\,x}\,\right)\,}\right]\,\,-\,$$

$$\label{eq:linear_problem} \begin{subarray}{l} $\hat{\mathbb{I}}$ ArcSinh $\left[\frac{\sqrt{-\frac{-d\,g+c\,h}{h}}}{\sqrt{c+d\,x}}\right]$, $\frac{\left(-\,d\,e+c\,f\right)\,h}{f\,\left(-\,d\,g+c\,h\right)}$ }\right] \end{subarray} / \left(\left(b\,c-a\,d\right)^2\,\sqrt{-\frac{-d\,g+c\,h}{h}}\right)$$

$$\sqrt{\left(f\,h\,+\,\,\frac{d^2\,e\,g\,-\,c\,d\,f\,g\,-\,c\,d\,e\,h\,+\,c^2\,f\,h}{\left(\,c\,+\,d\,\,x\,\right)^{\,2}}\,+\,\,\frac{d\,f\,g\,+\,d\,e\,h\,-\,2\,c\,f\,h}{c\,+\,d\,\,x}\,\right)\,\,\right]\,-\,\,\frac{d^2\,e\,g\,-\,c\,d\,f\,g\,-\,c\,d\,e\,h\,+\,c^2\,f\,h}{\left(\,c\,+\,d\,\,x\,\right)^{\,2}}\,+\,\,\frac{d\,f\,g\,+\,d\,e\,h\,-\,2\,c\,f\,h}{c\,+\,d\,\,x}\,\right)}$$

$$\label{eq:linear_continuous_co$$

$$\sqrt{\left(f\,h\,+\,\frac{d^2\,e\,g\,-\,c\,d\,f\,g\,-\,c\,d\,e\,h\,+\,c^2\,f\,h}{\left(\,c\,+\,d\,x\,\right)^{\,2}}\,+\,\frac{d\,f\,g\,+\,d\,e\,h\,-\,2\,c\,f\,h}{c\,+\,d\,x}\,\right)\,\right]\,-\,$$

$$\label{eq:continuous_problem} \begin{array}{|c|c|c|c|c|c|c|} \hline 2 \ \dot{\mathbb{1}} \ b^2 \ B \ d \ e \ h \ \sqrt{1 - \frac{-d \ e + c \ f}{f \ \left(c + d \ x\right)}} \ \sqrt{1 - \frac{-d \ g + c \ h}{h \ \left(c + d \ x\right)}} \ \ \text{EllipticF} \left[\end{array}$$

$$\label{eq:linear_continuity} \text{$\dot{\mathbb{1}}$ ArcSinh} \Big[\frac{\sqrt{-\frac{-d\,g+c\,h}{h}}}{\sqrt{c+d\,x}} \Big] \text{, } \frac{\left(-\,d\,e+c\,f\right)\,h}{f\,\left(-\,d\,g+c\,h\right)} \Big] \Bigg] / \left(\left(b\,c\,-\,a\,d\right)\,\sqrt{-\frac{-\,d\,g+c\,h}{h}} \right)$$

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

$$\sqrt{\left(f\,h\,+\,\,\frac{\,d^{2}\,e\,g\,-\,c\,\,d\,f\,g\,-\,c\,\,d\,e\,\,h\,+\,\,c^{\,2}\,f\,h}{\,\,\left(\,c\,+\,d\,\,x\,\right)^{\,2}}\,+\,\,\frac{\,d\,f\,g\,+\,d\,e\,\,h\,-\,2\,\,c\,\,f\,h}{\,\,c\,+\,d\,\,x}\,\right)\,\,\right]\,\,-\,\,d^{2}\,g\,g\,-\,c\,\,d\,g\,-\,c\,\,d\,g\,g\,-\,c\,\,d\,g\,g\,-\,c\,\,d\,g\,g\,-\,c\,\,d\,g\,g\,-\,c\,\,d\,g\,g\,-\,c\,\,d\,g\,-\,c\,\,d\,g\,g\,-\,c\,\,d\,g\,g\,-\,c\,\,d\,g\,g\,-\,c\,\,d\,g\,g\,-\,c\,\,d\,g\,g\,-\,c\,\,d\,g\,-\,c\,\,d\,g\,g\,-\,c\,\,d\,g\,-\,c\,\,d\,g\,g\,-\,c\,\,d\,g\,-\,c\,\,d\,g\,-\,c\,\,d\,g\,-\,c\,\,d\,g\,-\,c\,\,d\,g\,-\,c\,\,d\,g\,-\,c\,\,d\,g\,-\,c\,\,d\,g\,-\,c\,\,d\,g\,-\,c\,\,d\,g\,-\,c\,\,d\,g\,-\,c\,\,d\,g\,-\,c\,\,d\,g\,-\,c\,\,d\,g\,-\,c\,\,d\,g\,-\,c\,\,d\,g\,-\,c\,\,d\,g\,-\,c\,\,d\,g\,$$

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

$$\label{eq:linear_continuity} \text{$\dot{\mathbb{1}}$ ArcSinh} \Big[\frac{\sqrt{-\frac{-d\,g+c\,h}{h}}}{\sqrt{c+d\,x}} \Big] \text{, } \frac{\left(-\,d\,e+c\,f\right)\,h}{f\,\left(-\,d\,g+c\,h\right)} \Big] \Bigg] / \left(\left(b\,c\,-\,a\,d\right)\,\sqrt{-\frac{-\,d\,g+c\,h}{h}} \right)$$

$$\sqrt{\left(f\,h\,+\,\,\frac{\,d^2\,e\,g\,-\,c\,\,d\,f\,g\,-\,c\,\,d\,e\,\,h\,+\,\,c^2\,f\,h}{\left(\,c\,+\,d\,\,x\,\right)^{\,2}}\,+\,\,\frac{\,d\,f\,g\,+\,d\,e\,\,h\,-\,2\,\,c\,\,f\,h}{\,c\,+\,d\,\,x}\,\right)\,}\right]\,\,-\,$$

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

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

$$2 \, b^2 \, C \, d \, e \, g \, \left[i \, c \, \sqrt{1 - \frac{-d \, e + c \, f}{f \, \left(c + d \, x\right)^2}} \, \sqrt{1 - \frac{-d \, g + c \, h}{h \, \left(c + d \, x\right)}} \, EllipticPi \left[\frac{\left(b \, c - a \, d\right) \, h}{c + d \, x} \right] - \frac{1}{\left(b \, c - a \, d\right)^2}$$

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

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

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

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

$$4 \, ArcSinh \left[\frac{\sqrt{-\frac{-d \, e + c \, f}{h \, \left(c + d \, x\right)^2}} \, \sqrt{1 - \frac{-d \, g + c \, h}{h \, \left(c + d \, x\right)}} \,$$

$$\left[i \ a \ d \sqrt{1 - \frac{-d \ e + c \ f}{f \left(c + d \ x\right)}} \ \sqrt{1 - \frac{-d \ g + c \ h}{h \left(c + d \ x\right)}} \ EllipticPi \Big[\frac{\left(b \ c - a \ d\right) \ h}{b \left(-d \ g + c \ h\right)}, \right.$$

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

$$\left[\sqrt{-\frac{-d \ g + c \ h}{h}} \ \sqrt{\left(f \ h + \frac{d^2 \ e \ g}{\left(c + d \ x\right)^2} - \frac{c \ d \ e \ h}{\left(c + d \ x\right)^2} + \frac{c^2 \ f \$$

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

$$\frac{d\,f\,g}{c\,+\,d\,x}\,+\,\frac{d\,e\,h}{c\,+\,d\,x}\,-\,\frac{2\,c\,f\,h}{c\,+\,d\,x}\Bigg)\Bigg]\,-\,\left[\dot{\mathbb{1}}\,\,a\,d\,\sqrt{\,1\,-\,\frac{-\,d\,e\,+\,c\,f}{f\,\left(\,c\,+\,d\,x\,\right)}}\,\,\sqrt{\,1\,-\,\frac{-\,d\,g\,+\,c\,h}{h\,\left(\,c\,+\,d\,x\,\right)}}\right]$$

$$\begin{split} & \text{EllipticPi} \, \big[\, \frac{ \left(\, b \, \, c \, - \, a \, \, d \, \right) \, \, h}{ b \, \left(\, - \, d \, \, g \, + \, c \, \, h \, \right) } \, , \, \, \dot{\mathbb{I}} \, \, \, \text{ArcSinh} \, \big[\, \frac{ \sqrt{ \, - \, \frac{- \, d \, \, g + c \, \, h}{h} }}{ \sqrt{ \, c \, + \, d \, \, x }} \, \big] \, , \, \, \, \frac{ \left(\, - \, d \, \, e \, + \, c \, \, f \, \right) \, \, h}{ \, f \, \left(\, - \, d \, \, g \, + \, c \, \, h \, \right) } \, \big] \, \bigg] \, \end{split}$$

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

$$\frac{c^2 f h}{(c + d \, x)^2} + \frac{d f g}{c + d \, x} + \frac{d e h}{c + d \, x} - \frac{2 \, c \, f \, h}{c + d \, x} \right) \Bigg) + \frac{1}{(b \, c - a \, d)^3}$$

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

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

$$i \, ArcSinh \Big[\frac{\sqrt{-\frac{-d \, g \, c \, h}{h}}}{\sqrt{c + d \, x}} \Big], \, \frac{(-d \, e + c \, f) \, h}{f \, (-d \, g - c \, h)} \Big] \Bigg/ \Bigg[b \, \sqrt{-\frac{-d \, g \, c \, h}{h}} \, \sqrt{\left[f \, h + \frac{d \, g}{c + d \, x} + \frac{d \, f \, g}{c + d \, x}} + \frac{d \, e \, h}{c + d \, x} - \frac{2 \, c \, f \, h}{c + d \, x} \Big] \Bigg] \Bigg]$$

$$\frac{d^2 \, e \, g}{(c \, c \, d \, x)^2} - \frac{c \, d \, g \, h}{(c \, c \, d \, x)^2} + \frac{c^2 \, f \, h}{(c \, d \, d \, x)^2} + \frac{d \, f \, g}{c \, d \, x} + \frac{d \, e \, h}{c \, d \, x} - \frac{2 \, c \, f \, h}{c \, c \, d \, x} \Big] \Bigg] \Bigg]$$

$$\frac{d^2 \, e \, g}{(c \, c \, d \, x)^2} - \frac{c \, d \, g \, h}{(c \, c \, d \, x)^2} + \frac{c^2 \, f \, h}{(c \, d \, d \, x)^2} + \frac{d \, f \, g}{c \, d \, x} + \frac{d \, h}{c \, d \, x} + \frac{2 \, c \, f \, h}{c \, c \, d \, x} \Bigg] \Bigg]$$

$$\frac{d^2 \, e \, g}{(c \, c \, d \, x)^2} - \frac{c \, d \, g \, h}{(c \, c \, d \, x)^2} + \frac{c^2 \, f \, h}{(c \, c \, d \, x)^2} + \frac{d \, f \, g}{c \, d \, x} + \frac{d \, h}{c \, c \, d \, x} + \frac{2 \, c \, f \, h}{c \, c \, d \, x} \Bigg] \Bigg]$$

$$\frac{d^2 \, e \, g}{(c \, c \, d \, x)^2} - \frac{c \, d \, g \, g}{(c \, c \, d \, x)^2} + \frac{c^2 \, f \, h}{(c \, c \, d \, x)^2} + \frac{d \, f \, g}{c \, d \, x} + \frac{d \, h}{c \, c \, d \, x} + \frac{d \, h}{c \, c \, d \, x} + \frac{d \, h}{c \, c \, d \, x} + \frac{d \, h}{c \, c \, d \, x} + \frac{d \, h}{c \, c \, d \, x} + \frac{d \, h}{c \, c \, d \, x} + \frac{d \, h}{c \, c \, d \, x} + \frac{d$$

$$\begin{split} &i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-d\,g+c\,h}{h}}}{\sqrt{c+d\,x}}\Big]\,,\,\,\frac{\left(-d\,e+c\,f\right)\,h}{f\left(-d\,g+c\,h\right)}\Big] \Bigg/ \left(b\,\sqrt{-\frac{-d\,g+c\,h}{h}}\,\,\sqrt{\left(f\,h+\frac{d\,e\,h}{h}-\frac{2\,c\,f\,h}{c+d\,x}\right)^2}\right) - \frac{c\,d\,e\,h}{\left(c+d\,x\right)^2} + \frac{c^2\,f\,h}{\left(c+d\,x\right)^2} + \frac{d\,f\,g}{c+d\,x} + \frac{d\,e\,h}{c+d\,x} - \frac{2\,c\,f\,h}{c+d\,x}\Big) \Bigg) \Bigg] - \\ &\frac{1}{\left(b\,c-a\,d\right)^3}b^d\,B\,c\,d\,e\,h \left(i\,c\,\sqrt{1-\frac{-d\,e+c\,f}{f\left(c+d\,x\right)}}\,\,\sqrt{1-\frac{-d\,g+c\,h}{h\left(c+d\,x\right)}}\,\,\text{EllipticPi}\Big[\\ &\frac{\left(b\,c-a\,d\right)\,h}{b\left(-d\,g+c\,h\right)}\,,\,\,i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-d\,g+c\,h}{f\left(c+d\,x\right)}}}{\sqrt{c+d\,x}}\Big]\,,\,\,\frac{\left(-d\,e+c\,f\right)\,h}{f\left(-d\,g+c\,h\right)}\Big] \Bigg/ \\ &\sqrt{-\frac{-d\,g+c\,h}{h}}\,\,\,\sqrt{\left(f\,h+\frac{d^2\,e\,g}{\left(c+d\,x\right)^2}-\frac{c\,d\,f\,g}{\left(c+d\,x\right)^2}-\frac{c\,d\,e\,h}{\left(c+d\,x\right)^2}+\frac{c^2\,f\,h}{\left(c+d\,x\right)^2}+\frac{c^2\,f\,h}{\left(c+d\,x\right)^2}+\frac{d\,e\,h}{\left(c+d\,x$$

$$\text{EllipticPi}\Big[\frac{\left(\text{bc-ad}\right)\,\text{h}}{\text{b}\left(-\text{dg+ch}\right)}\text{, iArcSinh}\Big[\frac{\sqrt{-\frac{-\text{dg+ch}}{\text{h}}}}{\sqrt{\text{c+dx}}}\Big]\text{, }\frac{\left(-\text{de+cf}\right)\,\text{h}}{\text{f}\left(-\text{dg+ch}\right)}\Big] \Bigg/$$

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

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

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

$$= i \, Arc \, Sinh \left[\frac{\sqrt{-\frac{-d \, g + c \, h}{h}}}{\sqrt{c + d \, x}} \right], \, \frac{\left(-d \, e + c \, f\right) \, h}{f \, \left(-d \, g + c \, h\right)} \right] \right/ \left[\sqrt{-\frac{-d \, g + c \, h}{h}} \, \sqrt{\left(f \, h + \frac{d^2 \, e \, g}{\left(c + d \, x\right)^2} - \frac{c \, d \, e \, h}{\left(c + d \, x\right)^2} + \frac{c^2 \, f \, h}{\left(c + d \, x\right)^2} + \frac{d \, f \, g}{c + d \, x} + \frac{d \, e \, h}{c + d \, x} - \frac{2 \, c \, f \, h}{c + d \, x} \right] - \left[i \, a \, d \, \sqrt{1 - \frac{-d \, e + c \, f}{f \, \left(c + d \, x\right)}} \, \sqrt{1 - \frac{-d \, g + c \, h}{h} \, \left(c + d \, x\right)}} \, EllipticPi \left[\frac{\left(b \, c - a \, d\right) \, h}{b \, \left(-d \, g + c \, h\right)} \right] \right.$$

$$= i \, Arc \, Sinh \left[\frac{\sqrt{-\frac{-d \, g + c \, h}{h}}}{\sqrt{c + d \, x}} \right], \, \frac{\left(-d \, e + c \, f\right) \, h}{\left(-d \, g + c \, h\right)} \right] \right/ \left[b \, \sqrt{-\frac{-d \, g + c \, h}{h}} \, \sqrt{\left(f \, h + \frac{d^2 \, e \, g}{\left(c + d \, x\right)^2} - \frac{c \, d \, e \, h}{\left(c + d \, x\right)^2} + \frac{d \, f \, g}{c + d \, x} + \frac{d \, e \, h}{c + d \, x} - \frac{2 \, c \, f \, h}{c + d \, x} \right] \right] + \frac{1}{\left(b \, c - a \, d\right) \, h}{\left(b \, c - a \, d\right) \, h}, \, i \, Arc \, Sinh \left[\frac{\sqrt{-\frac{-d \, g + c \, h}{h}}}{\sqrt{c + d \, x}} \right], \, \frac{\left(-d \, e + c \, f\right) \, h}{\left(c - d \, g + c \, h\right)} \right] \right/ \left[\frac{\left(b \, c - a \, d\right) \, h}{b \, \left(-d \, g + c \, h\right)}, \, i \, Arc \, Sinh \left[\frac{\sqrt{-\frac{-d \, g + c \, h}{h}}}{\sqrt{c + d \, x}} \right], \, \frac{\left(-d \, e + c \, f\right) \, h}{\left(c - d \, g + c \, h\right)} \right] \right/ \left[\frac{\left(-d \, e + c \, f\right) \, h}{\left(c - d \, g + c \, h\right)} \right] \right/ \left[\frac{\left(-d \, e + c \, f\right) \, h}{\left(c - d \, g + c \, h\right)} \right] \right/ \left[\frac{\left(-d \, e + c \, f\right) \, h}{\left(c - d \, g + c \, h\right)} \right] \right/ \left[\frac{\left(-d \, e + c \, f\right) \, h}{\left(c - d \, g + c \, h\right)} \right] \right/ \left[\frac{\left(-d \, e + c \, f\right) \, h}{\left(c - d \, g + c \, h\right)} \right] \right/ \left[\frac{\left(-d \, e + c \, f\right) \, h}{\left(c - d \, g + c \, h\right)} \right] \right/ \left[\frac{\left(-d \, e \, c \, f\right) \, h}{\left(c - d \, g + c \, h\right)} \right] \right/ \left[\frac{\left(-d \, e \, c \, f\right) \, h}{\left(c - d \, g\right)} \right] \right/ \left[\frac{\left(-d \, e \, c \, f\right) \, h}{\left(c - d \, g\right)} \right] \right/ \left[\frac{\left(-d \, e \, c \, f\right) \, h}{\left(c - d \, g\right)} \right] \right/ \left[\frac{\left(-d \, e \, c \, f\right) \, h}{\left(c - d \, g\right)} \right] \right/ \left[\frac{\left(-d$$

$$\frac{d\,f\,g}{c\,+\,d\,x}\,+\,\frac{d\,e\,h}{c\,+\,d\,x}\,-\,\frac{2\,c\,f\,h}{c\,+\,d\,x}\Bigg)\Bigg]\,-\,\left[\dot{\mathbb{1}}\,\,a\,d\,\sqrt{\,1\,-\,\frac{-\,d\,e\,+\,c\,f}{f\,\left(\,c\,+\,d\,x\,\right)}}\,\,\sqrt{\,1\,-\,\frac{-\,d\,g\,+\,c\,h}{h\,\left(\,c\,+\,d\,x\,\right)}}\right]$$

$$\label{eq:energy_energy_energy_energy} \text{EllipticPi} \left[\frac{\left(b \ c - a \ d \right) \ h}{b \ \left(- d \ g + c \ h \right)} \text{, i ArcSinh} \left[\frac{\sqrt{-\frac{-d \ g + c \ h}{h}}}{\sqrt{c + d \ x}} \right] \text{, } \frac{\left(- d \ e + c \ f \right) \ h}{f \ \left(- d \ g + c \ h \right)} \right] \right] /$$

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

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

$$2\,a\,b^2\,C\,d\,e\,h\,\left(\left[\begin{smallmatrix} i&c&\sqrt{1-\frac{-\,d\,e+c\,f}{f\,\left(c+d\,x\right)}}&\sqrt{1-\frac{-\,d\,g+c\,h}{h\,\left(c+d\,x\right)}}&\text{EllipticPi}\,\big[\,\frac{\left(b\,c-a\,d\right)\,h}{b\,\left(-\,d\,g+c\,h\right)}\right]\right)$$

$$\text{iArcSinh}\Big[\frac{\sqrt{-\frac{-d\,g+c\,h}{h}}}{\sqrt{c+d\,x}}\Big]\text{,}\;\frac{\left(-\,d\,e+c\,f\right)\,h}{f\,\left(-\,d\,g+c\,h\right)}\Big] \left/\sqrt{-\frac{-\,d\,g+c\,h}{h}}\;\sqrt{\left(f\,h+c\,h\right)}\right|$$

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

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

$$\frac{d^2eg}{\left(c+dx\right)^2} - \frac{cdfg}{\left(c+dx\right)^2} - \frac{cdeh}{\left(c+dx\right)^2} + \frac{c^2fh}{\left(c+dx\right)^2} + \frac{dfg}{c+dx} + \frac{deh}{c+dx} - \frac{2cfh}{c+dx} \right) \right] + \\ \frac{1}{\left(b\,c-a\,d\right)^3} b^4 \, B \, c^2 \, fh \left(\left[i\,c\,\sqrt{1 - \frac{-d\,e+c\,f}{f\,\left(c+d\,x\right)}} \, \sqrt{1 - \frac{-d\,g+c\,h}{h\,\left(c+d\,x\right)}} \, EllipticPi \left[\left[i\,c\,\sqrt{1 - \frac{-d\,e+c\,f}{f\,\left(c+d\,x\right)}} \, \sqrt{1 - \frac{-d\,g+c\,h}{h\,\left(c+d\,x\right)}} \, EllipticPi \left[\left[\left(\frac{b\,c-a\,d\right)\,h}{h\,\left(c+d\,x\right)} \right] \right] \right/ \\ \left(\sqrt{-\frac{-d\,g+c\,h}{h}} \, \sqrt{\left[f\,h + \frac{d^2\,e\,g}{\left(c+d\,x\right)^2} - \frac{c\,d\,f\,g}{\left(c+d\,x\right)^2} - \frac{c\,d\,e\,h}{\left(c+d\,x\right)^2} + \frac{c^2\,f\,h}{\left(c+d\,x\right)^2} \right] } \\ \frac{d\,f\,g}{c+d\,x} + \frac{d\,e\,h}{c+d\,x} - \frac{2\,c\,f\,h}{c+d\,x} \right) - \left[i\,a\,d\,\sqrt{1 - \frac{-d\,e+c\,f}{f\,\left(c+d\,x\right)}} \, \sqrt{1 - \frac{-d\,g+c\,h}{h\,\left(c+d\,x\right)}} \right] \\ EllipticPi \left[\frac{\left(b\,c-a\,d\right)\,h}{b\,\left(-d\,g+c\,h\right)} , \, i\,ArcSinh \left[\frac{\sqrt{-\frac{-d\,g+c\,h}{h}}}{\sqrt{c+d\,x}} \right] , \, \frac{\left(-d\,e+c\,f\right)\,h}{f\,\left(-d\,g+c\,h\right)} \right] \right] \\ \left[b\,\sqrt{-\frac{-d\,g+c\,h}{h}} \, \sqrt{\left[f\,h + \frac{d^2\,e\,g}{\left(c+d\,x\right)^2} - \frac{c\,d\,f\,g}{\left(c+d\,x\right)^2}} - \frac{c\,d\,e\,h}{\left(c+d\,x\right)^2} + \frac{c^2\,f\,h}{\left(c+d\,x\right)^2} + \frac{c^2\,f\,h}{\left(c+d\,x\right)^2} + \frac{d\,f\,g}{\left(c+d\,x\right)^2} - \frac{c\,d\,f\,g}{\left(c+d\,x\right)^2} - \frac{c\,d\,e\,h}{\left(c+d\,x\right)^2} + \frac{c^2\,f\,h}{\left(c+d\,x\right)^2} + \frac{c^2\,f\,h}{\left(c+d\,x\right)^2} + \frac{c^2\,f\,h}{\left(c+d\,x\right)^2} + \frac{c^2\,f\,h}{\left(c+d\,x\right)^2} - \frac{c\,d\,f\,g}{\left(c+d\,x\right)^2} - \frac{c\,d\,e\,h}{\left(c+d\,x\right)^2} + \frac{c^2\,f\,h}{\left(c+d\,x\right)^2} + \frac{c^2\,f\,h}{\left(c+d\,x\right)^2} + \frac{c^2\,f\,h}{\left(c+d\,x\right)^2} - \frac{c\,d\,f\,g}{\left(c+d\,x\right)^2} - \frac{c\,d\,f\,g}{\left(c+d\,x\right)^2} - \frac{c\,d\,e\,h}{\left(c+d\,x\right)^2} + \frac{c^2\,f\,h}{\left(c+d\,x\right)^2} + \frac{c^2\,f\,h}{\left(c+d\,x\right)^2} - \frac{c\,d\,f\,g}{\left(c+d\,x\right)^2} - \frac{c\,d\,g\,h}{\left(c+d\,x\right)^2} - \frac{c\,d\,g\,h}{\left(c+d\,x\right)^2} + \frac{c^2\,f\,h}{\left(c+d\,x\right)^2} + \frac{c^2\,f\,h}{\left(c+d\,x\right)^2} - \frac{c\,d\,g\,h}{\left(c+d\,x\right)^2} - \frac{c\,d\,g\,h}{\left(c+d\,x\right)^2} - \frac{c\,d\,g\,h}{\left(c+d\,x\right)^2} + \frac{c^2\,f\,h}{\left(c+d\,x\right)^2} + \frac{c^2\,f\,h}{\left(c+d\,x\right)^2} - \frac{c\,d\,g\,h}{\left(c+d\,x\right)^2} - \frac{c\,d\,g\,h}{\left(c+d\,x\right)^2} - \frac{c\,d\,g\,h}{\left(c+d\,x\right)^2} + \frac{c^2\,f\,h}{\left(c+d\,x\right)^2} + \frac{c^2\,f\,h}{\left(c+d\,x\right)^2} - \frac{c\,d\,g\,h}{\left(c+d\,x\right)^2} - \frac{c\,d\,g\,h}{\left(c+d\,x\right)^2} - \frac{c\,d\,g\,h}{\left(c+d\,x\right)^2} + \frac{c^2\,f\,h}{\left(c+d\,x\right)^2} + \frac{c^2\,f\,h}{\left(c+d\,x\right)^2} - \frac{c\,d\,g\,h}{\left(c+d\,x\right)^2} - \frac{c\,d\,g\,h}{\left(c+d\,x\right)^2} - \frac{c\,d\,g\,h}{\left(c+d\,x\right)^2} + \frac{$$

$$\begin{split} & i \, \text{ArcSinh} \Big[\frac{\sqrt{\frac{-dg + ch}{h}}}{\sqrt{c + dx}} \Big], \, \frac{(-de + cf) \, h}{f \, (-dg + ch)} \Big] \Bigg/ \left[\sqrt{-\frac{-dg + ch}{h}} \, \sqrt{\left(fh + \frac{d^2 \, eg}{\left(c + dx\right)^2} - \frac{cdfg}{\left(c + dx\right)^2} + \frac{c^2 \, fh}{\left(c + dx\right)^2} + \frac{dfg}{c + dx} + \frac{deh}{c + dx} - \frac{2 \, cfh}{c + dx} \right] - \frac{dg \, eg}{\left(c + dx\right)^2} - \frac{cd \, gh}{h \, \left(c + dx\right)^2} + \frac{c^2 \, fh}{\left(c + dx\right)^2} + \frac{dfg}{c + dx} + \frac{deh}{c + dx} - \frac{2 \, cfh}{c + dx} \Bigg] - \frac{dg \, ech}{h \, \left(c + dx\right)} \Big], \, \frac{\left(-dg + cf\right) \, h}{f \, \left(-dg + ch\right)} \Big] \Bigg/ \left[b \, \sqrt{-\frac{-dg + ch}{h}} \, \sqrt{\left(fh + \frac{d^2 \, eg}{c + dx}\right)^2 - \frac{cdeh}{\left(c + dx\right)^2}} + \frac{c^2 \, fh}{\left(c + dx\right)^2} + \frac{dfg}{c + dx} + \frac{deh}{c + dx} - \frac{2 \, cfh}{c + dx} \Big] \Bigg] - \frac{dg \, ech}{h \, \left(c + dx\right)^2} + \frac{dg \, ech}{c + dx} + \frac{dg \, ech}{c + dx} - \frac{dg \, ech}{c + dx} - \frac{dg \, ech}{c + dx} \Big] \Bigg] - \frac{dg \, ech}{h \, \left(c + dx\right)^2} + \frac{dg \, ech}{c + dx} + \frac{dg \,$$

$$\begin{split} & \text{EllipticPi}\Big[\frac{\left(b\,c-a\,d\right)\,h}{b\,\left(-d\,g+c\,h\right)},\, i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{d\,g+c\,h}{h}}}{\sqrt{c+d\,x}}\Big],\, \frac{\left(-d\,e+c\,f\right)\,h}{f\,\left(-d\,g+c\,h\right)}\Big] \bigg] \bigg/ \\ & \left[b\,\sqrt{-\frac{-d\,g+c\,h}{h}}\,\,\sqrt{\left(f\,h+\frac{d^2\,e\,g}{\left(c+d\,x\right)^2}-\frac{c\,d\,f\,g}{\left(c+d\,x\right)^2}-\frac{c\,d\,e\,h}{\left(c+d\,x\right)^2}} + \frac{c^2\,f\,h}{\left(c+d\,x\right)^2} + \frac{d\,f\,g}{c+d\,x} + \frac{d\,e\,h}{c+d\,x} - \frac{2\,c\,f\,h}{c+d\,x}\bigg] \right] + \frac{1}{\left(b\,c-a\,d\right)^2} \\ & 4\,a\,b^2\,c\,C\,f\,h \left[\left[i\,c\,\sqrt{1-\frac{-d\,e+c\,f}{f\,\left(c+d\,x\right)}}\,\,\sqrt{1-\frac{-d\,g+c\,h}{h\,\left(c+d\,x\right)}}\,\,EllipticPi\Big[\frac{\left(b\,c-a\,d\right)\,h}{b\,\left(-d\,g+c\,h\right)},\right. \right. \\ & i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-d\,g+c\,h}{f\,\left(c+d\,x\right)}}}{\sqrt{c+d\,x}}\Big],\, \frac{\left(-d\,e+c\,f\right)\,h}{\left(c+d\,x\right)^2} + \frac{c^2\,f\,h}{\left(c+d\,x\right)^2} + \frac{d\,f\,g}{c+d\,x} + \frac{d\,e\,h}{c+d\,x} - \frac{2\,c\,f\,h}{c+d\,x}\bigg] - \\ & \left[i\,a\,d\,\sqrt{1-\frac{-d\,e+c\,f}{f\,\left(c+d\,x\right)}}\,\,\sqrt{1-\frac{-d\,g+c\,h}{h\,\left(c+d\,x\right)}}\,\,EllipticPi\Big[\frac{\left(b\,c-a\,d\right)\,h}{b\,\left(-d\,g+c\,h\right)},\right. \\ & i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-d\,g+c\,h}{h}}}{\sqrt{c+d\,x}}\Big],\, \frac{\left(-d\,e+c\,f\right)\,h}{f\,\left(-d\,g+c\,h\right)}\Big] \middle/\,\left[b\,\sqrt{-\frac{-d\,g+c\,h}{h}}\,\,\sqrt{\left(f\,h+\frac{d\,g+c\,h}{h\,c+d\,x}\right)^2} + \frac{d\,f\,g}{c+d\,x} + \frac{d\,e\,h}{c+d\,x} - \frac{2\,c\,f\,h}{c+d\,x}\Big] \right] - \\ & \frac{d^2\,e\,g}{\left(c+d\,x\right)^2} - \frac{c\,d\,f\,g}{\left(c+d\,x\right)^2} - \frac{c\,d\,e\,h}{\left(c+d\,x\right)^2} + \frac{c^2\,f\,h}{\left(c+d\,x\right)^2} + \frac{d\,f\,g}{c+d\,x} + \frac{d\,e\,h}{c+d\,x} - \frac{2\,c\,f\,h}{c+d\,x}\Big] \right) - \\ & \frac{d^2\,e\,g}{\left(c+d\,x\right)^2} - \frac{c\,d\,f\,g}{\left(c+d\,x\right)^2} - \frac{c\,d\,e\,h}{\left(c+d\,x\right)^2} + \frac{c^2\,f\,h}{\left(c+d\,x\right)^2} + \frac{d\,f\,g}{c+d\,x} + \frac{d\,e\,h}{c+d\,x} - \frac{2\,c\,f\,h}{c+d\,x}\Big] \right) - \\ & \frac{d^2\,e\,g}{\left(c+d\,x\right)^2} - \frac{c\,d\,f\,g}{\left(c+d\,x\right)^2} - \frac{c\,d\,e\,h}{\left(c+d\,x\right)^2} + \frac{c^2\,f\,h}{\left(c+d\,x\right)^2} + \frac{d\,f\,g}{c+d\,x} + \frac{d\,e\,h}{c+d\,x} - \frac{2\,c\,f\,h}{c+d\,x}\Big] \right) - \\ & \frac{d^2\,e\,g}{\left(c+d\,x\right)^2} - \frac{c\,d\,f\,g}{\left(c+d\,x\right)^2} - \frac{c\,d\,e\,h}{\left(c+d\,x\right)^2} + \frac{c^2\,f\,h}{\left(c+d\,x\right)^2} + \frac{d\,f\,g}{\left(c+d\,x\right)^2} + \frac{d\,f\,g}{c+d\,x} + \frac{d\,e\,h}{c+d\,x} - \frac{2\,c\,f\,h}{c+d\,x}\Big] \right) - \\ & \frac{d^2\,e\,g}{\left(c+d\,x\right)^2} - \frac{c\,d\,f\,g}{\left(c+d\,x\right)^2} - \frac{c\,d\,e\,h}{\left(c+d\,x\right)^2} + \frac{c^2\,f\,h}{\left(c+d\,x\right)^2} + \frac{d\,f\,g}{\left(c+d\,x\right)^2} + \frac{d\,f\,g}{c+d\,x} + \frac{d\,e\,h}{c+d\,x} - \frac{2\,c\,f\,h}{c+d\,x}\Big] \right) - \\ & \frac{d^2\,e\,g}{\left(c+d\,x\right)^2} - \frac{c\,d\,f\,g}{\left(c+d\,x\right)^2} + \frac{c\,d\,e\,h}{\left(c+d\,x\right)^2} + \frac{c^2\,f\,h}{\left(c+d\,x\right)^2} + \frac{d\,f\,g}{\left(c+d\,x\right)^2} +$$

$$\frac{1}{\left(b\,c-a\,d\right)^2}2\,a\,b^2\,B\,d\,f\,h\,\left(\left[\dot{1}\,c\,\sqrt{1-\frac{-\,d\,e+c\,f}{f\,\left(c+d\,x\right)}}\,\,\sqrt{1-\frac{-\,d\,g+c\,h}{h\,\left(c+d\,x\right)}}\,\,\text{EllipticPi}\right[$$

$$\frac{\left(\text{bc-ad}\right)\text{ h}}{\text{b}\left(-\text{dg+ch}\right)}\text{, i ArcSinh}\Big[\frac{\sqrt{-\frac{-\text{dg+ch}}{\text{h}}}}{\sqrt{\text{c+dx}}}\Big]\text{, }\frac{\left(-\text{de+cf}\right)\text{ h}}{\text{f}\left(-\text{dg+ch}\right)}\Big] \Bigg/$$

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

$$\frac{d\,f\,g}{c\,+\,d\,x}\,+\,\frac{d\,e\,h}{c\,+\,d\,x}\,-\,\frac{2\,c\,f\,h}{c\,+\,d\,x}\Bigg)\Bigg]\,-\,\left[\dot{\mathbb{1}}\,\,a\,d\,\sqrt{\,1\,-\,\frac{-\,d\,e\,+\,c\,f}{f\,\left(\,c\,+\,d\,x\,\right)}}\,\,\sqrt{\,1\,-\,\frac{-\,d\,g\,+\,c\,h}{h\,\left(\,c\,+\,d\,x\,\right)}}\right]$$

$$\begin{split} & \text{EllipticPi} \, \big[\, \frac{ \left(\, b \, \, c \, - \, a \, \, d \, \right) \, \, h}{ b \, \left(\, - \, d \, \, g \, + \, c \, \, h \, \right)} \, , \, \, \dot{\mathbb{I}} \, \, \, \text{ArcSinh} \, \big[\, \frac{ \sqrt{ \, - \, \frac{- \, d \, \, g + \, c \, \, h}{h}}}{ \sqrt{ \, c \, + \, d \, \, x}} \, \big] \, , \, \, \, \frac{ \left(\, - \, d \, \, e \, + \, c \, \, f \, \right) \, \, h}{ \, f \, \left(\, - \, d \, \, g \, + \, c \, \, h \, \right)} \, \bigg] \, \bigg/ \end{split}$$

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

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

$$2\,a^2\,b\,C\,d\,f\,h\,\left(\left[\dot{a}\,c\,\sqrt{1-\frac{-\,d\,e+c\,f}{f\,\left(c+d\,x\right)}}\,\,\sqrt{1-\frac{-\,d\,g+c\,h}{h\,\left(c+d\,x\right)}}\,\,\,\text{EllipticPi}\left[\,\frac{\left(b\,c-a\,d\right)\,h}{b\,\left(-\,d\,g+c\,h\right)}\,,\right.\right.\right)$$

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

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

$$= \frac{1}{c + d \, x} \left[\frac{1}{c + d \, x} - \frac{1}{c + d \, x} \right] - \frac{1}{c + d \, x} \left[\frac{1}{c + d \, x} - \frac{1}{c + d \, x}$$

$$\frac{b^2 \, B \, c^2 \, f \, h}{\left(c + d \, x\right)^2} - \frac{2 \, a \, b \, c^2 \, C \, f \, h}{\left(c + d \, x\right)^2} - \\ \frac{2 \, b^2 \, C \, d \, e \, g}{c + d \, x} + \frac{2 \, b^2 \, B \, d \, f \, g}{c + d \, x} - \frac{2 \, a \, b \, C \, d \, f \, g}{c + d \, x} + \\ \frac{2 \, b^2 \, B \, d \, e \, h}{c + d \, x} - \frac{2 \, a \, b \, C \, d \, e \, h}{c + d \, x} - \\ \frac{2 \, b^2 \, B \, c \, f \, h}{c + d \, x} + \frac{4 \, a \, b \, c \, C \, f \, h}{c + d \, x} - \\ \frac{2 \, a \, b \, B \, d \, f \, h}{c + d \, x} + \frac{2 \, a^2 \, C \, d \, f \, h}{c + d \, x} \right)$$

Problem 21: Result more than twice size of optimal antiderivative.

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

Optimal (type 4, 980 leaves, 9 steps):

Result (type 4, 21 555 leaves): Display of huge result suppressed!

Problem 22: Result more than twice size of optimal antiderivative.

$$\int \frac{a \ b \ B - a^2 \ C + b^2 \ B \ x + b^2 \ C \ x^2}{\sqrt{a + b \ x} \ \sqrt{c + d \ x} \ \sqrt{e + f \ x} \ \sqrt{g + h \ x}} \ \mathbb{d}x$$

Optimal (type 4, 734 leaves, 8 steps):

$$\frac{b\,C\,\sqrt{a+b\,x}\,\,\sqrt{e+f\,x}\,\,\sqrt{g+h\,x}}{f\,h\,\sqrt{c+d\,x}} - \left(b\,C\,\sqrt{d\,g-c\,h}\,\,\sqrt{f\,g-e\,h}\,\,\sqrt{a+b\,x}\,\,\sqrt{-\frac{\left(d\,e-c\,f\right)\,\left(g+h\,x\right)}{\left(f\,g-e\,h\right)\,\left(c+d\,x\right)}}\right) \\ = EllipticE\left[ArcSin\left[\frac{\sqrt{d\,g-c\,h}\,\,\sqrt{e+f\,x}}{\sqrt{f\,g-e\,h}\,\,\sqrt{c+d\,x}}\right], \, \frac{\left(b\,c-a\,d\right)\,\left(f\,g-e\,h\right)}{\left(b\,e-a\,f\right)\,\left(d\,g-c\,h\right)}\right] / \\ = \left(d\,f\,h\,\sqrt{\frac{\left(d\,e-c\,f\right)\,\left(a+b\,x\right)}{\left(b\,e-a\,f\right)\,\left(c+d\,x\right)}}\,\,\sqrt{g+h\,x}}\right) - \left[C\,\left(b\,e-a\,f\right)\,\sqrt{b\,g-a\,h}\,\,\sqrt{\frac{\left(b\,e-a\,f\right)\,\left(c+d\,x\right)}{\left(d\,e-c\,f\right)\,\left(a+b\,x\right)}}\right) \\ = \sqrt{g+h\,x}\,\,EllipticF\left[ArcSin\left[\frac{\sqrt{b\,g-a\,h}\,\,\sqrt{e+f\,x}}{\sqrt{f\,g-e\,h}\,\,\sqrt{a+b\,x}}\right], \, -\frac{\left(b\,c-a\,d\right)\,\left(f\,g-e\,h\right)}{\left(d\,e-c\,f\right)\,\left(b\,g-a\,h\right)}\right] / \\ = \left(f\,h\,\sqrt{f\,g-e\,h}\,\,\sqrt{c+d\,x}\,\,\sqrt{-\frac{\left(b\,e-a\,f\right)\,\left(g+h\,x\right)}{\left(f\,g-e\,h\right)\,\left(a+b\,x\right)}}\right)} - \left(\frac{\left(b\,g-a\,h\right)\,\left(c+d\,x\right)}{\left(d\,g-c\,h\right)\,\left(a+b\,x\right)} - \frac{\left(b\,g-a\,h\right)\,\left(c+d\,x\right)}{\left(g\,g-a\,h\right)\,\left(a+b\,x\right)} - \frac{\left(b\,g-a\,h\right)\,\left(c+d\,x\right)}{\left(g\,g-c\,h\right)\,\left(a+b\,x\right)} - \frac{\left(b\,g-a\,h\right)\,\left(e+f\,x\right)}{\left(f\,g-e\,h\right)\,\left(a+b\,x\right)} - \frac{\left(b\,g-a\,h\right)\,\left(e+f\,x\right)}{\left(b\,g-a\,h\right)\,\left(a+b\,x\right)} - \frac{\left(b\,g-a\,h\right)\,\left(a+b\,x\right)}{\left(b\,g-a\,h\right)\,\left(a+b\,x\right)} - \frac{\left(b\,g-a\,h\right)\,\left(a+b\,x\right)}{\left(b\,g-a\,h\right)\,\left(a+b\,x\right)} - \frac{\left(b\,g-a\,h\right)\,\left(a+b\,x\right)}{\left(b\,g-a\,h\right)\,\left(a+b\,x\right)} - \frac{\left(b\,g-a\,h\right)\,\left(a+b\,x\right)}{\left(a+b\,x\right)} - \frac{\left(b\,g-a\,h\right)\,\left(a+b\,x\right)}{\left(a+b\,x\right)} - \frac{\left(b\,g-a\,h\right)\,\left(a+b\,x\right)}{\left(a+b\,x\right)} - \frac{\left(b\,g-a\,h\right)\,\left(a+b\,x\right)}{\left(a+b\,x\right)} - \frac{\left(b\,g-a\,h\right)\,\left(a+b\,x\right)}{\left(a+b\,x\right)} - \frac{\left(b\,g-a\,h\right)\,\left(a+b\,x\right)}{\left(a+b\,x\right)} - \frac{\left(a+b\,x\right)\,\left(a+b\,x\right)}{\left(a+b\,x\right)} - \frac{\left(a+b\,x\right)\,\left(a+b\,x\right)}{\left(a+b$$

Result (type 4, 6667 leaves):

$$\frac{1}{d^2} \, 2 \, \left[\left(b \, C \, \left(c + d \, x \right)^{3/2} \left(f + \frac{d \, e}{c + d \, x} - \frac{c \, f}{c + d \, x} \right) \, \left(h + \frac{d \, g}{c + d \, x} - \frac{c \, h}{c + d \, x} \right) \, \sqrt{a + \frac{\left(c + d \, x \right) \, \left(b - \frac{b \, c}{c + d \, x} \right)}{d}} \right] \right. \right. \\ \left. \left(2 \, f \, h \, \sqrt{e + \frac{\left(c + d \, x \right) \, \left(f - \frac{c \, f}{c + d \, x} \right)}{d}} \, \sqrt{g + \frac{\left(c + d \, x \right) \, \left(h - \frac{c \, h}{c + d \, x} \right)}{d}} \right) - \left(d \, \left(b \, g - a \, h \right) \, \left(d \, g - c \, h \right) \, \left(b \, C \, f \, g + b \, C \, e \, h - 2 \, b \, B \, f \, h + 2 \, a \, C \, f \, h \right) \, \sqrt{c + d \, x} \, \sqrt{\left(\left(b - \frac{b \, c}{c + d \, x} + \frac{a \, d}{c + d \, x} \right) \right)} \right) \right. \\ \left. \left(f + \frac{d \, e}{c + d \, x} - \frac{c \, f}{c + d \, x} \right) \left(h + \frac{d \, g}{c + d \, x} - \frac{c \, h}{c + d \, x} \right) \right) \sqrt{a + \frac{\left(c + d \, x \right) \, \left(b - \frac{b \, c}{c + d \, x} \right)}{d}} \right.$$

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

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

$$- \left((-b\,d\,g + a\,d\,h) \text{ EllipticE}[ArcSin[\sqrt{\frac{\left(d\,e - c\,f\right) \left(h + \frac{d\,g}{-c\,d\,x} - \frac{c\,h}{-c\,d\,x}\right)}{d\left(-f\,g + e\,h\right)}} \right] \right) / \left((b\,c - a\,d) \left(-d\,g + c\,h\right) \right) - \frac{1}{b\,c - a\,d} \,b \text{ EllipticF}[$$

$$ArcSin[\sqrt{\frac{\left(d\,e - c\,f\right) \left(h + \frac{d\,g}{-c\,d\,x} - \frac{c\,h}{-c\,d\,x}\right)}{d\left(-f\,g + e\,h\right)}} \right] / \left((b\,c - a\,d) \left(-f\,g + e\,h\right)} \right) \right] / \left(-\frac{f}{-\frac{f}{-d\,e+cf}} + \frac{1}{-\frac{h}{-\frac$$

$$2f^2h^2\left(b - \frac{bc}{c + dx} + \frac{ad}{c + dx}\right) \sqrt{e + \frac{(c + dx)\left[f - \frac{cf}{c + dx}\right]}{d}}} \sqrt{g + \frac{(c + dx)\left[h - \frac{ab}{c + dx}\right]}{d}}$$

$$b \left(bCdfg - bCdeh + bCCfh - 2bBdfh + aCdfh\right) \sqrt{c + dx}$$

$$\sqrt{\left(\left[b - \frac{bc}{c + dx} + \frac{ad}{c + dx}\right]\left(f + \frac{de}{c + dx} - \frac{cf}{c + dx}\right)\left(h + \frac{dg}{c + dx} - \frac{ch}{c + dx}\right)\right)}$$

$$\sqrt{a + \frac{(c + dx)\left[b - \frac{bc}{c + dx}\right]}{d}}$$

$$\sqrt{a + \frac{(c + dx)\left[b - \frac{bc}{c + dx}\right]}{d}} \sqrt{\frac{-\frac{b}{bc + ad} + \frac{1}{c + dx}}{-\frac{dc}{c + cf}} - \frac{h}{-dgch}} }$$

$$\left(\left[\frac{de - cf}{-de + cf} + \frac{1}{c + dx}\right]\sqrt{\frac{-\frac{b}{bc + ad} + \frac{1}{c + dx}}{-\frac{dc}{c + cf}} - \frac{h}{-dgch}} - \frac{(bc - ad)\left[-fg + eh\right]}{d\left[-fg + eh\right]} \right],$$

$$\frac{(bc - ad)\left[-fg + eh\right]}{\left(-de + cf\right)\left[-bg + ah\right]} \right] / \left(\left[bc - ad\right]\left[-dg + ch\right]\right) - \frac{1}{bc - ad}$$

$$b \ EllipticF\left[ArcSin\left[\sqrt{\frac{(de - cf)\left[h + \frac{dg}{c + dx} - \frac{ch}{c + dx}\right]}{d\left[-fg + eh\right]}}\right], \frac{(bc - ad)\left[-fg + eh\right]}{\left[-de + cf\right]\left[-bg + ah\right]} \right] \right] /$$

$$\left(\sqrt{-\frac{f}{-de + cf} + \frac{h}{-dgch}}, \sqrt{\left[b + \frac{-bc + ad}{c + dx}\right]\left[f + \frac{de - cf}{c + dx}\right]\left[h + \frac{dg - ch}{c + dx}\right]} - \frac{(cdfg)}{-decf} - \frac{h}{c + dx}$$

$$- bdg + adh$$

$$\left(-\frac{f}{-de + cf} + \frac{1}{c + dx}\right)\sqrt{\frac{-\frac{h}{-dgch} + \frac{1}{c + dx}}{decf} - \frac{h}{-dgch}}} - \frac{(cdfg)}{-decf} - \frac{h}{c + dx}$$

$$\left(-\frac{f}{-d \, e + c \, f} + \frac{1}{c + d \, x} \right) \sqrt{\frac{-\frac{d}{d \, e \, c \, f} + \frac{1}{c \, d \, e \, c \, f}}{\frac{f}{-d \, e \, c \, f} - \frac{h}{-d \, e \, c \, f}}} } \\ \left(\left(-b \, d \, g + a \, d \, h \right) \, EllipticE \left[ArcSin \left[\sqrt{\frac{\left(d \, e \, c \, f \right) \left(h + \frac{d \, g}{c \, d \, x} - \frac{c \, h}{c \, d \, x} \right)}{d \left(-f \, g + e \, h \right)}} \, \right] \right) / \left(\left(b \, c \, -a \, d \right) \left(-d \, g + c \, h \right) \right) - \frac{1}{b \, c \, -a \, d}} \\ b \, EllipticF \left[ArcSin \left[\sqrt{\frac{\left(d \, e \, c \, f \right) \left(h + \frac{d \, g}{c \, d \, x} - \frac{c \, h}{c \, d \, x} \right)}{d \left(-f \, g + e \, h \right)}} \, \right] \right) / \left(\frac{b \, c \, -a \, d \right) \left(-f \, g + e \, h \right)}{d \left(-f \, g + e \, h \right)} \, \right] \right) / \\ \left(\sqrt{\frac{-\frac{f}{-d \, e \, c \, f} + \frac{1}{c \, d \, x}}{-\frac{d \, e \, c \, f}{-d \, e \, c \, f} + \frac{h}{c \, d \, x}} \sqrt{\frac{\left(b \, c \, -a \, d \right) \left(-f \, g + e \, h \right)}{c \, -d \, e \, c \, f} + \frac{h}{c \, d \, x}} \sqrt{\frac{\left(b \, c \, -a \, d \right) \left(-f \, g + e \, h \right)}{-\frac{d \, e \, c \, f}{c \, -d \, x}}} \right) + \\ \left(d \, f \, g \, \sqrt{\frac{\frac{b}{b \, c \, -a \, d} + \frac{1}{c \, d \, g}}{-\frac{b}{b \, c \, -a \, d} + \frac{h}{-d \, e \, c \, f}}} \sqrt{\frac{-\frac{f}{-d \, e \, c \, f} + \frac{1}{c \, d \, g}}{-\frac{d \, e \, c \, f}{-d \, e \, c \, f} + \frac{h}{-d \, g \, c}}}} \left(-\frac{h}{-d \, g \, c \, h} + \frac{1}{c \, d \, x}} \right) \right) \right) / \left(-f \, g \, + e \, h \right)} \right) \right) / \\ \left(d \, e \, h \, \sqrt{\frac{-\frac{h}{-d \, g \, c \, h}}{-\frac{h}{d \, e \, c \, f}}}} \sqrt{\left(b \, + \frac{b \, c \, +a \, d}{c \, +d \, x} \right) \left(f \, + \frac{d \, e \, c \, f}{c \, c \, d \, x}} \right) \left(h \, + \frac{d \, g \, c \, h}{c \, c \, d \, x} \right)} \right) \right) / \\ \left(d \, e \, h \, \sqrt{\frac{-\frac{h}{-d \, g \, c \, h}}{-\frac{h}{d \, e \, c \, f}}}} \sqrt{\left(b \, + \frac{b \, c \, +a \, d}{c \, +d \, x} \right) \left(f \, + \frac{d \, e \, c \, f}{c \, +d \, x} \right) \left(h \, + \frac{d \, g \, c \, h}{c \, +d \, x} \right)} \right) + \\ \left(d \, e \, h \, \sqrt{\frac{-\frac{h}{-d \, g \, c \, h}}{-\frac{h}{d \, e \, c \, f}}} \sqrt{\left(b \, + \frac{-b \, c \, +a \, d}{c \, +d \, x}} \left(-\frac{h}{-d \, e \, c \, f} + \frac{1}{c \, +d \, x}} \right) \left(h \, + \frac{d \, g \, c \, h}{c \, +d \, x} \right)} \right) + \\ \left(d \, e \, h \, \sqrt{\frac{-\frac{h}{-d \, g \, c \, h}}{-\frac{h}{d \, e \, c \, f}}} \sqrt{\left(b \, + \frac{-b \, c \, +a \, d}{c \, +d \, x}} \left(-\frac{h}{-d \, e \, c \, f} + \frac{1}{c \, +d \, x}} \right) \left(h \, + \frac{d \, g \, c \, c \, h}{c \, +d \, x}} \right) \right) \right) / \\ \left(d \, e \, h \, \sqrt{\frac{-\frac{h}{-d \, g \, c$$

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

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

Optimal (type 4, 616 leaves, 8 steps):

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

Result (type 4, 1753 leaves):

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

$$2 \, \left(\left(- b \, B + 2 \, a \, C \right) \, \left(a + b \, x \right)^{5/2} \, \left(d + \frac{b \, c}{a + b \, x} - \frac{a \, d}{a + b \, x} \right) \, \left(f + \frac{b \, e}{a + b \, x} - \frac{a \, f}{a + b \, x} \right) \, \left(h + \frac{b \, g}{a + b \, x} - \frac{a \, h}{a + b \, x} \right) \right) \right) /$$

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

$$\left\{ -\left[\left(bB\sqrt{\frac{\left(bc - ad \right) \left(bg - ah \right) \left(-\frac{d}{-bc + ad} + \frac{1}{a \cdot bx} \right)}{bdg - bch}} \left(-\frac{f}{-be + af} + \frac{1}{a \cdot bx} \right) \sqrt{\frac{\frac{h}{-bg - a} + \frac{1}{a \cdot bx}}{\frac{f}{-bg \cdot ah} + \frac{1}{a \cdot bx}}} \right) \sqrt{\frac{\frac{h}{-bg \cdot ah} + \frac{1}{a \cdot bx}}{\frac{f}{-bg \cdot ah}}} \right] \right\} }$$

$$\left\{ -\left[\left(bdg - bch \right) EllipticE \left[ArcSin \left[\sqrt{\frac{\left(be - af \right) \left(h + \frac{bg}{-abx} - \frac{ah}{a \cdot bx} \right)}{b \left(-fg + eh \right)}} \right] \right] \right\}$$

$$\left(-bc + ad \right) \left(-fg + eh \right) \left(-dg + ch \right) \right] \right] / \left(\left(bc - ad \right) \left(bg - ah \right) \right) -$$

$$\frac{1}{-bc + ad} \left(edg + ch \right) \left(-dg + ch \right) \right] \right] /$$

$$\left(-\frac{f}{-be + af} + \frac{1}{a \cdot bx} \right) \left(d + \frac{bc - ad}{a + bx} \right) \left(f + \frac{be - af}{a + bx} \right) \left(h + \frac{bg - ah}{a + bx} \right) \right] +$$

$$\left(2aC \sqrt{\frac{\left(bc - ad \right) \left(bg - ah \right) \left(-\frac{d}{abc - ad} + \frac{1}{a \cdot bx} \right)}{b dg - bch}} \left(-\frac{f}{-be + af} + \frac{1}{a + bx} \right) \sqrt{\frac{\frac{h}{-bg \cdot ah} - \frac{1}{a \cdot bx}}{\frac{f}{-be \cdot af} - \frac{h}{-bg \cdot ah}}} \right)$$

$$\left(-\left[\left(bdg - bch \right) EllipticE \left[ArcSin \left[\sqrt{\frac{\left(be - af \right) \left(h + \frac{bg}{-abx} - \frac{ah}{a \cdot bx}}{b \left(-fg + eh \right)}} \right] \right] \right)$$

$$\left(-bc + ad \right) \left(-fg + eh \right) \left(-dg + ch \right) \right] / \left(\left(bc - ad \right) \left(bg - ah \right) \right) -$$

$$\frac{1}{-bc + ad} dEllipticF \left[ArcSin \left[\sqrt{\frac{\left(be - af \right) \left(h + \frac{bg}{-abx} - \frac{ah}{a \cdot bx}} \right)}{b \left(-fg + eh \right)}} \right] \right]$$

$$\left(\sqrt{\frac{-\frac{f}{-be+af} + \frac{1}{a+bx}}{-\frac{f}{-be+af} + \frac{h}{-bg+ah}}} \sqrt{\left(d + \frac{b\,c - a\,d}{a+b\,x}\right) \left(f + \frac{b\,e - a\,f}{a+b\,x}\right) \left(h + \frac{b\,g - a\,h}{a+b\,x}\right)} - \right)$$

$$\left(\sqrt{\frac{-\frac{d}{-b\,c+ad} + \frac{1}{a+bx}}{-\frac{d}{-b\,c+ad} + \frac{h}{-bg+ah}}} \sqrt{\frac{-\frac{f}{-b\,e+af} + \frac{1}{a+bx}}{-\frac{f}{-b\,e+af} + \frac{h}{-bg+ah}}} \left(-\frac{h}{-b\,g+a\,h} + \frac{1}{a+b\,x}\right) \right)$$

$$EllipticF \left[ArcSin \left[\sqrt{\frac{\left(-b\,e + a\,f\right) \left(-h - \frac{b\,g}{a+b\,x} + \frac{a\,h}{a+b\,x}\right)}{b \left(-f\,g + e\,h\right)}} \right], \frac{\left(-b\,c + a\,d\right) \left(-f\,g + e\,h\right)}{\left(-b\,e + a\,f\right) \left(-d\,g + c\,h\right)} \right]$$

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

Problem 25: Result more than twice size of optimal antiderivative.

$$\int \frac{a\,b\,B - a^2\,C + b^2\,B\,x + b^2\,C\,x^2}{\big(\,a + b\,x\,\big)^{\,7/2}\,\sqrt{c + d\,x}\,\,\sqrt{e + f\,x}\,\,\sqrt{g + h\,x}}\,\,\mathrm{d}x$$

Optimal (type 4, 1128 leaves, 9 steps):

$$\begin{array}{l} \left(2\,b\,d\left(9\,a^{3}C\,d\,f\,h-b^{3}\right)\left(2\,B\,d\,e\,g-c\right)\left(3\,C\,e\,g-2\,B\,f\,g-2\,B\,e\,h\right)\right) + a\,b^{2} \\ & \left(C\,\left(d\,e\,g+c\,f\,g+c\,e\,h\right) + 4\,B\,\left(d\,f\,g+d\,e\,h+c\,f\,h\right)\right) - a^{2}\,b\,\left(6\,B\,d\,f\,h+5\,C\,\left(d\,f\,g+d\,e\,h+c\,f\,h\right)\right)\right) \\ & \sqrt{a+b\,x}\,\sqrt{e+f\,x}\,\sqrt{g+h\,x}\,\,\right) \left/\left(3\,\left(b\,c-a\,d\right)^{2}\left(b\,e-a\,f\right)^{2}\left(b\,g-a\,h\right)^{2}\,\sqrt{c+d\,x}\right) - \frac{2\,b^{2}\,\left(b\,B-2\,a\,C\right)\,\sqrt{c+d\,x}\,\sqrt{e+f\,x}\,\sqrt{g+h\,x}}{3\,\left(b\,c-a\,d\right)\,\left(b\,e-a\,f\right)\,\left(b\,g-a\,h\right)\,\left(a+b\,x\right)^{3/2}} - \frac{2\,b^{2}\,\left(b\,B-2\,a\,C\right)\,\sqrt{c+d\,x}\,\sqrt{e+f\,x}\,\sqrt{g+h\,x}}{3\,\left(b\,c-a\,d\right)\,\left(b\,e-a\,f\right)\,\left(b\,g-a\,h\right)\,\left(a+b\,x\right)^{3/2}} - \frac{2\,b^{2}\,\left(g\,a^{2}\,C\,d\,f\,h-b^{3}\,\left(2\,B\,d\,e\,g-c\,\left(3\,C\,e\,g-2\,B\,f\,g-2\,B\,e\,h\right)\right) + a\,b^{2}}{\left(C\,\left(d\,e\,g+c\,f\,g+c\,e\,h\right) + 4\,B\,\left(d\,f\,g+d\,e\,h+c\,f\,h\right)\right) - a^{2}\,b\,\left(6\,B\,d\,f\,h+5\,C\,\left(d\,f\,g+d\,e\,h+c\,f\,h\right)\right)} - \frac{2\,b\,\sqrt{d\,g-c\,h}\,\,\sqrt{g+h\,x}}{\sqrt{c+d\,x}\,\,\sqrt{g+h\,x}} - \frac{2\,b\,\sqrt{d\,g-c\,h}\,\,\sqrt{g+h\,x}}{\left(f\,g-e\,h\right)\,\left(c+d\,x\right)} - \frac{2\,b\,\left(6\,B\,d\,f\,h+5\,C\,\left(d\,f\,g+d\,e\,h+c\,f\,h\right)\right)}{\sqrt{f\,g-e\,h}\,\,\sqrt{c+d\,x}} - \frac{\left(d\,e-c\,f\right)\,\left(g+h\,x\right)}{\left(f\,g-e\,h\right)\,\left(c+d\,x\right)} - \frac{2\,b\,\left(6\,B\,d\,f\,h+5\,C\,\left(d\,f\,g+d\,e\,h+c\,f\,h\right)\right)}{\sqrt{f\,g-e\,h}\,\,\sqrt{c+d\,x}} - \frac{\left(d\,e-c\,f\right)\,\left(g+h\,x\right)}{\left(f\,g-e\,h\right)\,\left(c+d\,x\right)} - \frac{2\,\left(3\,a^{3}\,C\,d^{2}\,f\,h-b^{3}\,\left(2\,B\,d^{2}\,e\,g-B\,c^{2}\,f\,h-c\,d\,\left(3\,C\,e\,g-B\,f\,g-B\,e\,h\right)\right)}{\sqrt{\left(b\,e-a\,f\right)\,\left(c+d\,x\right)}} - \frac{2\,\left(3\,a^{3}\,C\,d^{2}\,f\,h-b^{3}\,\left(2\,B\,d^{2}\,e\,g-B\,c^{2}\,f\,h-c\,d\,\left(3\,C\,e\,g-B\,f\,g-B\,e\,h\right)\right)}{\sqrt{\left(b\,e-a\,f\right)\,\left(c+d\,x\right)}} - \frac{2\,\left(3\,a^{3}\,C\,d^{2}\,f\,h-b^{3}\,\left(2\,B\,d^{2}\,e\,g-B\,c^{2}\,f\,h-c\,d\,\left(3\,C\,e\,g-B\,f\,g-B\,e\,h\right)\right)}{\sqrt{\left(b\,e-a\,f\right)\,\left(c+d\,x\right)}} - \frac{2\,\left(3\,a^{3}\,C\,d^{2}\,f\,h-b^{3}\,\left(2\,B\,d^{2}\,e\,g-B\,c^{2}\,f\,h-c\,d\,\left(3\,C\,e\,g-B\,f\,g-B\,e\,h\right)\right)}{\sqrt{\left(b\,e-a\,f\right)\,\left(c+d\,x\right)}} - \frac{2\,\left(3\,a^{3}\,C\,d^{2}\,f\,h-b^{3}\,\left(2\,B\,d^{2}\,e\,g-B\,c^{2}\,f\,h-c\,d\,\left(3\,C\,e\,g-B\,f\,g-B\,e\,h\right)\right)}{\sqrt{\left(b\,e-a\,f\right)\,\left(c+d\,x\right)}} - \frac{2\,\left(a\,a^{3}\,C\,d^{2}\,f\,h-b^{3}\,\left(2\,B\,d^{2}\,e\,g-B\,c^{2}\,f\,h-c\,d\,\left(3\,C\,e\,g-B\,f\,g-B\,e\,h\right)\right)}{\sqrt{\left(b\,e-a\,f\right)\,\left(c+d\,x\right)}} - \frac{2\,\left(a\,a^{3}\,C\,d^{2}\,f\,h-b^{3}\,\left(a\,a^{3}\,e\,g-B\,c^{2}\,f\,h-c\,d\,\left(a\,a^{3}\,e\,g-B\,e\,h\right)\right)}{\sqrt{\left(a\,a^{3}\,e\,g-B\,e\,g-B\,e\,h}} - \frac{2\,\left(a\,a^{3}\,e\,g-B\,e\,g-B\,e\,h\right)}{\sqrt{\left(a\,a^{3}\,e\,g-B\,e\,g-B\,e\,h\right)}} - \frac{2\,\left(a\,a^{3}\,e\,g-B\,e\,g-B\,e\,h\right)}{\sqrt{\left(a\,a^{3}\,e\,g-B\,e\,g-B\,e\,h\right)}} - \frac{2\,\left(a\,a^{3$$

Result (type 4, 10645 leaves):

$$\sqrt{a + b \times x} \ \sqrt{c + d \times x} \ \sqrt{e + f \times x} \ \sqrt{g + h \times x}$$

$$\left(-\frac{2 \ b^2 \ \left(b \ B - 2 \ a \ C \right)}{3 \ \left(b \ c - a \ d \right) \ \left(b \ e - a \ f \right) \ \left(b \ g - a \ h \right) \ \left(a + b \times \right)^2} - \left(2 \ b^2 \ \left(3 \ b^3 \ c \ C \ e \ g - 2 \ b^3 \ B \ d \ e \ g + a \ b^2 \ C \ d \ e \ g - 2 \ b^3 \ B \ d \ e \ g + a \ b^2 \ C \ d \ e \ g - 2 \ b^3 \ B \ c \ e \ h + a \ b^2 \ c \ C \ e \ h + 4 \ a \ b^2 \ B \ d \ f \ g - 5 \ a^2 \ b \ C \ d \ f \ g - 2 \ b^3 \ B \ c \ e \ h + a \ b^2 \ c \ C \ e \ h + 4 \ a \ b^2 \ B \ d \ f \ h - 5 \ a^2 \ b \ C \ f \ h - 6 \ a^2 \ b \ B \ d \ f \ h + 9 \ a^3 \ C \ d \ f \ h \right)$$

$$\left(3\left(b\,c-a\,d\right)^{2}\left(b\,e-a\,f\right)^{2}\left(b\,g-a\,h\right)^{2}\left(a+b\,x\right)\right) - \frac{1}{3b\left(-b\,c+a\,d\right)^{2}\left(-b\,e+a\,f\right)^{2}\left(-b\,g+a\,h\right)^{2}} \\ 2 \left[\left(-3\,b^{3}\,c\,C\,e\,g+2\,b^{3}\,B\,d\,e\,g-a\,b^{2}\,C\,d\,e\,g+2\,b^{3}\,B\,c\,e\,f-a\,b^{2}\,c\,C\,e\,f-4\,a\,b^{2}\,B\,d\,e\,h + 5\,a^{2}\,b\,C\,d\,f\,g+2\,b^{3}\,B\,c\,e\,f-a\,b^{2}\,c\,C\,e\,h - 4\,a\,b^{2}\,B\,d\,e\,h + 5\,a^{2}\,b\,C\,d\,e\,f-4\,a\,b^{2}\,B\,d\,e\,f-9\,a^{3}\,C\,d\,f\,h\right)} \\ \left(a+b\,x\right)^{5/2}\left(d+\frac{b\,c}{a+b\,x}-\frac{a\,d}{a+b\,x}\right)\left(f+\frac{b\,e}{a+b\,x}-\frac{a\,f}{a+b\,x}\right)\left(h+\frac{b\,g}{a+b\,x}-\frac{a\,h}{a+b\,x}\right)\right) / \\ \sqrt{c+\frac{(a+b\,x)\left(d-\frac{a\,d}{a+b\,x}\right)}{b}}\sqrt{e+\frac{(a+b\,x)\left(f-\frac{a\,f}{a+b\,x}\right)}{b}}\sqrt{g+\frac{(a+b\,x)\left(h-\frac{a\,h}{a+b\,x}\right)}{b}}} \\ \left(b\,g-a\,h\right)\left(a+b\,x\right)^{3/2}\sqrt{\left(\left(d+\frac{b\,c}{a+b\,x}-\frac{a\,d}{a+b\,x}\right)\left(f+\frac{b\,e}{a+b\,x}-\frac{a\,f}{a+b\,x}\right)\left(h+\frac{b\,g}{a+b\,x}-\frac{a\,h}{a+b\,x}\right)}\right)} \\ -\left[\left(3\,b^{3}\,c\,C\,e\,g\,\sqrt{\frac{\left(b\,c-a\,d\right)\left(b\,g-a\,h\right)\left(-\frac{d}{-b\,c+a\,d}+\frac{1}{a+b\,x}\right)}{b\,d\,g-b\,c\,h}}}\right] - \left(\left(b\,d\,g-b\,c\,h\right)\,EllipticE\right) \\ -\left(\frac{f}{-b\,e+a\,f}+\frac{1}{a+b\,x}\right)\sqrt{\frac{-\frac{h}{-b\,g+a\,h}+\frac{1}{a+b\,x}}{-\frac{h}{-b\,g+a\,h}}}} - \left[-\left(\left(b\,d\,g-b\,c\,h\right)\,EllipticE\right) \\ \left(\left(b\,c-a\,d\right)\left(b\,g-a\,h\right)\right) - \frac{1}{-b\,c+a\,d}\,EllipticF\left[ArcSin\right]} \\ \sqrt{\frac{\left(b\,e-a\,f\right)\left(h+\frac{b\,g}{a+b\,x}-\frac{a\,h}{a+b\,x}\right)}{b\left(-f\,g+e\,h\right)}} \right], \frac{\left(-b\,c+a\,d\right)\left(-f\,g+e\,h\right)}{\left(-b\,e+a\,f\right)\left(-d\,g+c\,h\right)}} \right] \right| / \\ \sqrt{\frac{\left(b\,e-a\,f\right)\left(h+\frac{b\,g}{a+b\,x}-\frac{a\,h}{a+b\,x}\right)}{b\left(-f\,g+e\,h\right)}}} \right] / \sqrt{\frac{-b\,c+a\,d\right)\left(-f\,g+e\,h\right)}{\left(-b\,e+a\,f\right)\left(-d\,g+c\,h\right)}}} \right] / /$$

$$\left(\sqrt{\frac{-\frac{f}{-be\cdot af} + \frac{1}{a\cdot bx}}{-\frac{f}{-be\cdot af} + \frac{h}{-bg\cdot ah}}} \sqrt{\left(d + \frac{bc - ad}{a + bx}\right) \left(f + \frac{be - af}{a + bx}\right) \left(h + \frac{bg - ah}{a + bx}\right)} \right) + \\ \left(2b^3 B d e g \sqrt{\frac{\left(bc - ad\right) \left(bg - ah\right) \left(-\frac{d}{-bc\cdot ad} + \frac{1}{a\cdot bx}\right)}{bdg - bch}} \left(-\frac{f}{-be + af} + \frac{1}{a + bx}\right) \right) + \\ \sqrt{\frac{-\frac{h}{-be\cdot af} + \frac{1}{a\cdot bx}}{-\frac{f}{-ba\cdot ah}}} \left(-\left[\left(bdg - bch\right) EllipticE\right] \right) + \\ ArcSin \left[\sqrt{\frac{\left(be - af\right) \left(h + \frac{bg}{a + bx} - \frac{ah}{a + bx}\right)}{b\left(-fg + eh\right)}}\right], \frac{\left(-bc + ad\right) \left(-fg + eh\right)}{\left(-be + af\right) \left(-dg + ch\right)}\right] \right] / \\ \left(\left(bc - ad\right) \left(bg - ah\right)\right) - \frac{1}{-bc + ad} d EllipticF \left[ArcSin \left(\frac{be - af\right) \left(h + \frac{bg}{a + bx} - \frac{ah}{a + bx}\right)}{b\left(-fg + eh\right)}\right], \frac{\left(-bc + ad\right) \left(-fg + eh\right)}{\left(-be + af\right) \left(-dg + ch\right)}\right] \right) / \\ \left(\sqrt{\frac{-\frac{f}{-be\cdot af} + \frac{1}{a + bx}}{-\frac{f}{-be\cdot af} + \frac{1}{bg\cdot ah}}} \sqrt{\left(d + \frac{bc - ad}{a + bx}\right) \left(f + \frac{be - af}{a + bx}\right) \left(h + \frac{bg - ah}{a + bx}\right)} - \\ ab^2 C d e g \sqrt{\frac{\left(bc - ad\right) \left(bg - ah\right) \left(-\frac{d}{-bc\cdot ad} + \frac{1}{a + bx}\right)}{bdg - bch}} \left(-\frac{f}{-be\cdot af} + \frac{1}{a + bx}\right)} - \\ \sqrt{\frac{-\frac{h}{-be\cdot af} + \frac{1}{a - bx}}{-\frac{h}{-be\cdot af}}} - \left(\left(bdg - bch\right) EllipticE} \right[\\ ArcSin \left[\sqrt{\frac{\left(be - af\right) \left(h + \frac{bg}{a + bx} - \frac{ah}{a + bx}\right)}{b\left(-fg + eh\right)}}\right] - \frac{1}{-bc\cdot ad} d EllipticF \left[ArcSin \left[\frac{h}{-be\cdot af} \left(-dg + eh\right)\right]} - \\ \left(\left(bc - ad\right) \left(bg - ah\right)\right) - \frac{1}{-bc\cdot ad} d EllipticF \left[ArcSin \left[\frac{h}{-bc\cdot ad} \left(-dg + eh\right)\right]\right) - \\ \left(\left(bc - ad\right) \left(bg - ah\right)\right) - \frac{1}{-bc\cdot ad} d EllipticF \left[ArcSin \left[\frac{h}{-bc\cdot ad} \left(-dg + eh\right)\right]\right) - \\ \left(\left(bc - ad\right) \left(bg - ah\right)\right) - \frac{1}{-bc\cdot ad} d EllipticF \left[ArcSin \left[\frac{h}{-bc\cdot ad} \left(-dg + eh\right)\right]\right) - \\ \left(\left(bc - ad\right) \left(bg - ah\right)\right) - \frac{1}{-bc\cdot ad} d EllipticF \left[ArcSin \left[\frac{h}{-bc\cdot ad} \left(-dg + eh\right)\right]\right) - \\ \left(\left(bc - ad\right) \left(bg - ah\right)\right) - \frac{1}{-bc\cdot ad} d EllipticF \left[ArcSin \left[\frac{h}{-bc\cdot ad} \left(-dg + eh\right)\right]\right) - \\ \left(\left(bc - ad\right) \left(bg - ah\right)\right) - \frac{1}{-bc\cdot ad} d EllipticF \left[ArcSin \left[\frac{h}{-bc\cdot ad} \left(-dg + eh\right)\right]\right)$$

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

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

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

$$\left(\left(b \, d \, g - b \, c \, h \right) \, EllipticE \left[\right.$$

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

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

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

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

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

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

$$ArcSin\Big[\sqrt{\frac{\left(be-af\right)\left(h+\frac{bg}{a+bx}-\frac{ah}{a+bx}\right)}{b\left(-fg+eh\right)}}\Big], \frac{\left(-bc+ad\right)\left(-fg+eh\right)}{\left(-be+af\right)\left(-dg+ch\right)}\Big] \Bigg/ \\ \left(\left(bc-ad\right)\left(bg-ah\right)\right) \Bigg] - \frac{1}{-bc+ad}dEllipticF\Big[ArcSin\Big[\\ \sqrt{\frac{\left(be-af\right)\left(h+\frac{bg}{a+bx}-\frac{ah}{a+bx}\right)}{b\left(-fg+eh\right)}}\Big], \frac{\left(-bc+ad\right)\left(-fg+eh\right)}{\left(-be+af\right)\left(-dg+ch\right)}\Big] \Bigg/ \\ \left(\sqrt{\frac{-\frac{f}{-be+af}+\frac{1}{a+bx}}{-bg+ah}}\sqrt{\left(d+\frac{bc-ad}{a+bx}\right)\left(f+\frac{be-af}{a+bx}\right)\left(h+\frac{bg-ah}{a+bx}\right)} \right) + \\ 2b^3Bceh\sqrt{\frac{\left(bc-ad\right)\left(bg-ah\right)\left(-\frac{d}{-bc+ad}+\frac{1}{a+bx}\right)}{bdg-bch}}\left(-\frac{f}{-be+af}+\frac{1}{a+bx}\right)} \\ \sqrt{\frac{-\frac{h}{-be+af}+\frac{1}{a-bx}}{-bg+ah}} - \left[\left(bdg-bch\right)EllipticE\Big[\\ ArcSin\Big[\sqrt{\frac{\left(be-af\right)\left(h+\frac{bg}{a+bx}-\frac{ah}{a+bx}\right)}{b\left(-fg+eh\right)}}\right], \frac{\left(-bc+ad\right)\left(-fg+eh\right)}{\left(-be+af\right)\left(-dg+ch\right)}\Big] \Bigg/ \\ \left(\left(bc-ad\right)\left(bg-ah\right)\right) - \frac{1}{-bc+ad}dEllipticF\Big[ArcSin\Big[\\ \sqrt{\frac{\left(be-af\right)\left(h+\frac{bg}{a+bx}-\frac{ah}{a+bx}\right)}{b\left(-fg+eh\right)}}\right], \frac{\left(-bc+ad\right)\left(-fg+eh\right)}{\left(-be+af\right)\left(-dg+ch\right)}\Big] \Bigg/ \\ \sqrt{\frac{-\frac{f}{-be+af}+\frac{1}{a+bx}}{-bg+ah}} \sqrt{\left(d+\frac{bc-ad}{a+bx}\right)\left(f+\frac{be-af}{a+bx}\right)\left(h+\frac{bg-ah}{a+bx}\right)} - \\ ab^2cCeh\sqrt{\frac{\left(bc-ad\right)\left(bg-ah\right)\left(-\frac{d}{-bc+ad}+\frac{1}{a+bx}\right)}{bdg-bch}} \left(-\frac{f}{-be+af}+\frac{1}{a+bx}\right)}$$

$$\left[\sqrt{\frac{-\frac{f}{-be+af} + \frac{1}{a+bx}}{-\frac{b}{-be+af} + \frac{b}{-bg+ah}}} \sqrt{\left(d + \frac{bc-ad}{a+bx}\right) \left(f + \frac{be-af}{a+bx}\right) \left(h + \frac{bg-ah}{a+bx}\right)} \right] + \\ \left[sa^2bcCfh \sqrt{\frac{\left(bc-ad\right) \left(bg-ah\right) \left(-\frac{d}{-bc+ad} + \frac{1}{a+bx}\right)}{bdg-bch}} \left(-\frac{f}{-be+af} + \frac{1}{a+bx}\right) \right] \\ \sqrt{\frac{-\frac{h}{-bg+ah} + \frac{1}{a+bx}}{-bg+ah}} - \left[\left(bdg-bch \right) EllipticE \right[\\ ArcSin \left[\sqrt{\frac{\left(be-af\right) \left(h + \frac{bg}{a+bx} - \frac{ah}{a+bx}\right)}{b \left(-fg+eh\right)}} \right], \frac{\left(-bc+ad\right) \left(-fg+eh\right)}{\left(-be+af\right) \left(-dg+ch\right)} \right] \right] \\ \sqrt{\frac{\left(be-af\right) \left(h + \frac{bg}{a+bx} - \frac{ah}{a+bx}\right)}{b \left(-fg+eh\right)}} \right], \frac{\left(-bc+ad\right) \left(-fg+eh\right)}{\left(-be+af\right) \left(-dg+ch\right)} \right] \right] \\ \sqrt{\frac{\left(\frac{be-af}{a+bx}\right) \left(h + \frac{bg}{a+bx} - \frac{ah}{a+bx}\right)}{b \left(-fg+eh\right)}} \right], \frac{\left(-bc+ad\right) \left(-fg+eh\right)}{\left(-be+af\right) \left(-dg+ch\right)} \right] \\ \sqrt{\frac{-\frac{f}{a-be+af} + \frac{1}{a+bx}}{-bg+ah}} \sqrt{\left(d + \frac{bc-ad}{a+bx}\right) \left(f + \frac{be-af}{a+bx}\right) \left(h + \frac{bg-ah}{a+bx}\right)} \\ \sqrt{\frac{-\frac{f}{a-be+af} + \frac{1}{a+bx}}{bdg-bch}} - \frac{\left(bc-ad\right) \left(bg-ah\right) \left(-\frac{d}{-bc+ad} + \frac{1}{a+bx}\right)}{bdg-bch} - \frac{f}{-be+af} + \frac{1}{a+bx} \right) \\ \sqrt{\frac{-\frac{h}{a-be+af} + \frac{1}{a+bx}}{-bg+ah}} - \left(\left(bdg-bch\right) EllipticE \right[\\ ArcSin \left[\sqrt{\frac{\left(be-af\right) \left(h + \frac{bg}{a+bx} - \frac{ah}{a+bx}\right)}{b \left(-fg+eh\right)}} \right], \frac{\left(-bc+ad\right) \left(-fg+eh\right)}{\left(-be+af\right) \left(-dg+ch\right)} \right] \\ / \left(\left(bc-ad\right) \left(bg-ah\right) \right) - \frac{1}{-bc+ad} d EllipticF \left[ArcSin \left[\frac{bg-ah}{a+bc+ad} + \frac{bg-ah}{a+bc+ad} \right] \right]$$

$$\sqrt{\frac{\left(be-af\right)\left(h+\frac{bg}{a+bx}-\frac{abx}{a+bx}\right)}{b\left(-fg+eh\right)}}} \], \ \frac{\left(-bc+ad\right)\left(-fg+eh\right)}{\left(-be+af\right)\left(-dg+ch\right)} \]} \ \Big| \ \sqrt{\frac{-\frac{f}{-be+af}+\frac{1}{a+bx}}{-\frac{f}{-be+af}+\frac{1}{a+bx}}} \sqrt{\left(d+\frac{bc-ad}{a+bx}\right)\left(f+\frac{be-af}{a+bx}\right)\left(h+\frac{bg-ah}{a+bx}\right)} \ - \ \Big| \ \sqrt{\frac{-\frac{f}{-be+af}+\frac{1}{a-bx}}{-\frac{bg-ah}{-be+af}-\frac{abx}{a-bx}}} \ - \left(\frac{f}{-be+af}+\frac{1}{a+bx}\right) \ - \ - \frac{f}{-be+af}+\frac{1}{a+bx} \ \Big| \ - \frac{f}{-be+af}+\frac{1}{a+bx} \ - \frac{1}{a+bx} \ - \frac{$$

Problem 26: Result unnecessarily involves complex numbers and more than twice size of optimal antiderivative.

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

Optimal (type 4, 1097 leaves, 9 steps):

Result (type 4, 18383 leaves):

$$\sqrt{c + d \, x} \ \sqrt{e + f \, x} \ \sqrt{g + h \, x}$$

$$\left(\frac{1}{105 \, d^3 \, f^3 \, h^3} 2 \, \left(24 \, b^2 \, C \, d^2 \, f^2 \, g^2 + 23 \, b^2 \, C \, d^2 \, e \, f \, g \, h + 23 \, b^2 \, c \, C \, d \, f^2 \, g \, h - 56 \, a \, b \, C \, d^2 \, f^2 \, g \, h + 24 \, b^2 \, C \, d^2 \, e^2 \, h^2 + 23 \, b^2 \, c \, C \, d \, e \, f \, h^2 - 56 \, a \, b \, C \, d^2 \, e \, f \, h^2 + 24 \, b^2 \, c^2 \, C \, f^2 \, h^2 - 56 \, a \, b \, c \, C \, d \, f^2 \, h^2 + 35 \, A \, b^2 \, d^2 \, f^2 \, h^2 + 35 \, a^2 \, C \, d^2 \, f^2 \, h^2 \right) - \frac{4 \, b \, C \, \left(3 \, b \, d \, f \, g + 3 \, b \, d \, e \, h + 3 \, b \, c \, f \, h - 7 \, a \, d \, f \, h \right) \, x}{35 \, d^2 \, f^2 \, h^2} + \frac{2 \, b^2 \, C \, x^2}{7 \, d \, f \, h} \right) + \frac{1}{105 \, d^5 \, f^3 \, h^3} \left(\frac{1}{f \, h \, \sqrt{e + \frac{(c + d \, x) \, \left(f - \frac{c \, f}{c \, s \, d \, x} \right)}}}{d \, d^2 \, f^2 \, h^2} \, \sqrt{g + \frac{(c + d \, x) \, \left(h - \frac{c \, h}{c \, s \, d \, x} \right)}{d \, d^2 \, g \, h}}} \right) \right) + \frac{1}{105 \, d^5 \, f^3 \, h^3} \right) + \frac{1}{105 \, d^5 \, f^3 \, h^3} \left(\frac{1}{f \, h \, \sqrt{e + \frac{(c + d \, x) \, \left(f - \frac{c \, f}{c \, s \, d \, x} \right)}}}}{d \, d^2 \, f^2 \, h^2} \, \sqrt{g + \frac{(c + d \, x) \, \left(h - \frac{c \, h}{c \, s \, d \, x} \right)}}{d \, d^2 \, g^2 \, h^2}} \right) + \frac{1}{105 \, d^5 \, f^3 \, h^3} \right) + \frac{1}{105 \, d^5 \, f^3 \, h^3} \left(\frac{1}{f \, h \, \sqrt{e + \frac{(c + d \, x) \, \left(f - \frac{c \, f}{c \, s \, d \, x} \right)}}}}{d \, d^2 \, f^2 \, h^2} \right) + \frac{1}{105 \, d^5 \, f^3 \, h^3} \right) + \frac{1}{105 \, d^5 \, f^3 \, h^3} \left(\frac{1}{f \, h \, \sqrt{e + \frac{(c + d \, x) \, \left(f - \frac{c \, f}{c \, s \, d \, x} \right)}}}}{d \, d^2 \, f^2 \, h^2} \right) + \frac{1}{105 \, d^5 \, f^3 \, h^3} \right)$$

$$\begin{split} & 4 \left(-24b^2 \, \text{Cd}^3 \, f^3 \, g^3 \, - 20b^2 \, \text{Cd}^3 \, e^2 \, g^2 \, h - 20b^2 \, \text{Cd}^3 \, e^3 \, g^3 \, h - 56 \, a \, \text{Dc} \, d^3 \, g^3 \, h - 20b^2 \, \text{Cd}^3 \, e^3 \, e^3 \, f \\ & h^2 - 18b^2 \, \text{Cd}^3 \, e^3 \, g^3 \, h^2 - 35 \, a^2 \, \text{Cd}^3 \, e^3 \, g^3 \, h^2 - 20b^2 \, \text{Cd}^3 \, e^3 \, g^3 \, h - 20b^2 \, \text{Cd}^3 \, e^3 \, h^3 \, e^3 \, e^3$$

$$\left(\sqrt{-\frac{-de+cf}{f}} \; \left(-dg+ch \right) \; \sqrt{\left(f + \frac{de-cf}{c+dx} \right) \left(h + \frac{dg-ch}{c+dx} \right)} \; \right) + \left(40 \; i \; b^2 \; C \; d^5 \; e^2 \right)$$

$$f^2 g^3 h^2 \; \sqrt{1 - \frac{-de+cf}{f} \left(c+dx \right)} \; \sqrt{1 - \frac{-dg+ch}{h \left(c+dx \right)}} \left[\text{EllipticE} \left[i \; ArcSinh \left[\frac{\sqrt{-\frac{-de+cf}{f}}}{\sqrt{c+dx}} \right] \right] ,$$

$$\frac{f \left(-dg+ch \right)}{\left(-de+cf \right) h} \right] - \text{EllipticF} \left[i \; ArcSinh \left[\frac{\sqrt{-\frac{-de+cf}{f}}}{\sqrt{c+dx}} \right] \right] , \; \frac{f \left(-dg+ch \right)}{\left(-de+cf \right) h} \right]$$

$$\left(\sqrt{-\frac{-de+cf}{f}} \; \left(-dg+ch \right) \; \sqrt{\left(f + \frac{de-cf}{c+dx} \right) \left(h + \frac{dg-ch}{c+dx} \right)} \right) - \left(48 \; i \; b^2 \; c \; C \; d^4 \right)$$

$$e \; f^3 \; g^3 \; h^2 \; \sqrt{1 - \frac{-de+cf}{f \left(c+dx \right)}} \; \sqrt{1 - \frac{-dg+ch}{h \left(c+dx \right)}} \; \left[\text{EllipticE} \left[i \; ArcSinh \left[\frac{\sqrt{-\frac{-de+cf}{f}}}{\sqrt{c+dx}} \right] \right] , \; \frac{f \left(-dg+ch \right)}{\left(-de+cf \right) h} \right]$$

$$\left(\sqrt{-\frac{-de+cf}{f}} \; \left(-dg+ch \right) \; \sqrt{\left(f + \frac{de-cf}{c+dx} \right) \left(h + \frac{dg-ch}{c+dx} \right)} \; - \; \frac{112 \; i \; a \; b \; C \; d^5 \right)$$

$$e \; f^3 \; g^3 \; h^2 \; \sqrt{1 - \frac{-de+cf}{f \left(c+dx \right)}} \; \sqrt{1 - \frac{-dg+ch}{c+dx}} \; \left[\text{EllipticE} \left[i \; ArcSinh \left[\frac{\sqrt{-\frac{-de+cf}{f}}}{f} \right] \right] \right)$$

$$\begin{split} &\frac{f\left(-\mathsf{d}\,g+c\,h\right)}{\left(-\mathsf{d}\,e+c\,f\right)\,h}\right] - \mathsf{EllipticF}\left[\,i\,\mathsf{ArcSinh}\left[\,\frac{\sqrt{-\frac{-\mathsf{d}\,e+c\,f}{f}}}{\sqrt{c+d\,x}}\,\right]\,,\,\,\frac{f\left(-\mathsf{d}\,g+c\,h\right)}{\left(-\mathsf{d}\,e+c\,f\right)\,h}\right] \bigg] \bigg) / \\ &\left(\sqrt{-\frac{-\mathsf{d}\,e+c\,f}{f}}\,\left(-\mathsf{d}\,g+c\,h\right)\,\sqrt{\left(f+\frac{\mathsf{d}\,e-c\,f}{c+d\,x}\right)\,\left(h+\frac{\mathsf{d}\,g-c\,h}{c+d\,x}\right)}\,\right) + \left(8\,i\,b^2\,c^2\,C\,d^3\,d^3\,d^3\,h^2\,\sqrt{1-\frac{-\mathsf{d}\,e+c\,f}{f}\,\left(c+d\,x\right)}}\,\sqrt{1-\frac{-\mathsf{d}\,g+c\,h}{h\,\left(c+d\,x\right)}}\,\left[\mathsf{EllipticE}\left[\,i\,\mathsf{ArcSinh}\left[\,\frac{\sqrt{-\frac{-\mathsf{d}\,e+c\,f}{f}}}{\sqrt{c+d\,x}}\,\right]\,,\,\,\frac{f\left(-\mathsf{d}\,g+c\,h\right)}{\left(-\mathsf{d}\,e+c\,f\right)\,h}\right] \right] \right) / \\ &\left(\sqrt{-\frac{-\mathsf{d}\,e+c\,f}{f}}\,\left(-\mathsf{d}\,g+c\,h\right)\,\sqrt{\left(f+\frac{\mathsf{d}\,e-c\,f}{c+d\,x}\right)\,\left(h+\frac{\mathsf{d}\,g-c\,h}{c+d\,x}\right)}\,\right) + \\ &\left(\mathsf{112}\,i\,\mathsf{a}\,\mathsf{b}\,\mathsf{c}\,\mathsf{C}\,\mathsf{d}^4\,f^4\,g^3\,h^2\,\sqrt{1-\frac{-\mathsf{d}\,e+c\,f}{f\,\left(c+d\,x\right)}}\,\sqrt{1-\frac{-\mathsf{d}\,g+c\,h}{h\,\left(c+d\,x\right)}}\,\right) \\ &\left(\mathsf{EllipticE}\left[\,i\,\mathsf{ArcSinh}\left[\,\frac{\sqrt{-\frac{-\mathsf{d}\,e+c\,f}{f}}}{\sqrt{c+d\,x}}\,\right]\,,\,\,\frac{f\left(-\mathsf{d}\,g+c\,h\right)}{\left(-\mathsf{d}\,e+c\,f\right)\,h}\,\right] - \\ &\left(\mathsf{EllipticF}\left[\,i\,\mathsf{ArcSinh}\left[\,\frac{\sqrt{-\frac{-\mathsf{d}\,e+c\,f}{f}}}{\sqrt{c+d\,x}}\,\right]\,,\,\,\frac{f\left(-\mathsf{d}\,g+c\,h\right)}{\left(-\mathsf{d}\,e+c\,f\right)\,h}\,\right] \right) / \\ &\left(\sqrt{-\frac{-\mathsf{d}\,e+c\,f}{f}}\,\left(-\mathsf{d}\,g+c\,h\right)\,\sqrt{\left(f+\frac{\mathsf{d}\,e-c\,f}{c+d\,x}\right)\,\left(h+\frac{\mathsf{d}\,g-c\,h}{c+d\,x}\right)}\,\right) + \\ &\left(\sqrt{-\frac{-\mathsf{d}\,e+c\,f}{f}}\,\left(-\mathsf{d}\,g+c\,h\right)\,\sqrt{\left(f+\frac{\mathsf{d}\,e-c\,f}{c+d\,x}\right)\,\left(h+\frac{\mathsf{d}\,g-c\,h}{c+d\,x}\right)}\,\right) + \\ \end{array}$$

$$\left[\text{EllipticE} \left[\text{i ArcSinh} \left[\frac{\sqrt{-\frac{-d\,e_{+}c\,f}{f}}}{\sqrt{c_{+}d\,x_{-}}} \right] \text{, } \frac{f\left(-d\,g_{+}c\,h\right)}{\left(-d\,e_{+}c\,f\right)\,h} \right] - \right]$$

$$\label{eq:final_continuous_con$$

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

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

$$\label{eq:final_continuous_con$$

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

$$\left[\text{EllipticE} \left[\, \dot{\mathbb{1}} \, \operatorname{ArcSinh} \left[\, \frac{\sqrt{-\, \frac{-d\, e + c\, f}{f}}}{\sqrt{c + d\, x}} \, \right] \, , \, \, \frac{f\, \left(-d\, g + c\, h \right)}{\left(-d\, e + c\, f \right)\, h} \, \right] \, - \right. \right]$$

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

$$\left[\text{EllipticE} \left[\text{i ArcSinh} \left[\frac{\sqrt{-\frac{-d\,e_{+}c\,f}{f}}}{\sqrt{c_{\,+}\,d\,x}} \right] \text{, } \frac{f\,\left(-\,d\,g_{\,+}\,c\,h\right)}{\left(-\,d\,e_{\,+}\,c\,f\right)\,h} \right] - \right] \right]$$

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

$$\left[\text{EllipticE} \left[\, \text{\ifont find items of table in the problem} \, \left[\, \frac{\sqrt{-\, \frac{-d\, e + c\, f}{f}}}{\sqrt{c + d\, x}} \, \right] \, , \, \, \frac{f\, \left(-d\, g + c\, h \right)}{\left(-d\, e + c\, f \right)\, h} \, \right] \, - \right.$$

$$\begin{split} & \text{EllipticF} \Big[\text{i} \, \text{ArcSinh} \Big[\frac{\sqrt{-\frac{-de+cf}{f}}}{\sqrt{c+dx}} \Big], \, \frac{f \left(-d\,g+c\,h \right)}{\left(-d\,e+c\,f \right)\,h} \Big] \Bigg] \Bigg/ \\ & \left(\sqrt{-\frac{-d\,e+c\,f}{f}} \, \left(-d\,g+c\,h \right) \, \sqrt{\left(f+\frac{d\,e-c\,f}{c+d\,x} \right) \, \left(h+\frac{d\,g-c\,h}{c+d\,x} \right)} \, \right) + \\ & \left(\sqrt{-\frac{-d\,e+c\,f}{f}} \, \left(-d\,g+c\,h \right) \, \sqrt{1-\frac{-d\,e+c\,f}{f}} \, \sqrt{1-\frac{-d\,g+c\,h}{h \, \left(c+d\,x \right)}} \, \right) + \\ & \left(\sqrt{-\frac{-d\,e+c\,f}{f}} \, \left(\sqrt{-\frac{-d\,e+c\,f}{f}} \, \right), \, \frac{f \left(-d\,g+c\,h \right)}{\left(-d\,e+c\,f \right)\,h} \Big] - \\ & \left(\sqrt{-\frac{-d\,e+c\,f}{f}} \, \left(-d\,g+c\,h \right) \, \sqrt{\left(f+\frac{d\,e-c\,f}{c+d\,x} \right) \, \left(h+\frac{d\,g-c\,h}{c+d\,x} \right)} \, \right) + \\ & \left(\sqrt{-\frac{-d\,e+c\,f}{f}} \, \left(-d\,g+c\,h \right) \, \sqrt{\left(f+\frac{d\,e-c\,f}{c+d\,x} \right) \, \left(h+\frac{d\,g-c\,h}{c+d\,x} \right)} \, \right) + \\ & \left(\sqrt{-\frac{-d\,e+c\,f}{f}} \, \left(-d\,g+c\,h \right) \, \sqrt{1-\frac{-d\,e+c\,f}{f \, \left(c+d\,x \right)}} \, \sqrt{1-\frac{-d\,g+c\,h}{h \, \left(c+d\,x \right)}} \, \right) + \\ & \left(\sqrt{-\frac{-d\,e+c\,f}{f}} \, \left(\sqrt{-\frac{-d\,e+c\,f}{f}} \, \right), \, \frac{f \left(-d\,g+c\,h \right)}{\left(-d\,e+c\,f \right)\,h} \, \right] - \\ & \left(\sqrt{-\frac{-d\,e+c\,f}{f}} \, \left(\sqrt{-\frac{-d\,e+c\,f}{f}} \, \right), \, \frac{f \left(-d\,g+c\,h \right)}{\left(-d\,e+c\,f \right)\,h} \, \right] - \\ & \left(\sqrt{-\frac{-d\,e+c\,f}{f}} \, \right), \, \frac{f \left(-d\,g+c\,h \right)}{\left(-d\,e+c\,f \right)\,h} \, \right] - \\ & \left(\sqrt{-\frac{-d\,e+c\,f}{f}} \, \right), \, \frac{f \left(-d\,g+c\,h \right)}{\left(-d\,e+c\,f \right)\,h} \, \right] - \\ & \left(\sqrt{-\frac{-d\,e+c\,f}{f}} \, \right), \, \frac{f \left(-d\,g+c\,h \right)}{\left(-d\,e+c\,f \right)\,h} \, \right) - \\ & \left(\sqrt{-\frac{-d\,e+c\,f}{f}} \, \right), \, \frac{f \left(-d\,g+c\,h \right)}{\left(-d\,e+c\,f \right)\,h} \, \right) - \\ & \left(\sqrt{-\frac{-d\,e+c\,f}{f}} \, \right), \, \frac{f \left(-d\,g+c\,h \right)}{\left(-d\,e+c\,f \right)\,h} \, \right) - \\ & \left(\sqrt{-\frac{-d\,e+c\,f}{f}} \, \right), \, \frac{f \left(-d\,g+c\,h \right)}{\left(-d\,e+c\,f \right)\,h} \, \right) - \\ & \left(\sqrt{-\frac{-d\,e+c\,f}{f}} \, \right), \, \frac{f \left(-d\,g+c\,h \right)}{\left(-d\,e+c\,f \right)\,h} \, \right) - \\ & \left(\sqrt{-\frac{-d\,e+c\,f}{f}} \, \right), \, \frac{f \left(-d\,g+c\,h \right)}{\left(-d\,e+c\,f \right)\,h} \, \right) - \\ & \left(\sqrt{-\frac{-d\,e+c\,f}{f}} \, \right), \, \frac{f \left(-d\,g+c\,h \right)}{\left(-d\,e+c\,f \right)\,h} \, \right) - \\ & \left(\sqrt{-\frac{-d\,e+c\,f}{f}} \, \right), \, \frac{f \left(-d\,g+c\,h \right)}{\left(-d\,e+c\,f \right)\,h} \, \right) - \\ & \left(\sqrt{-\frac{-d\,e+c\,f}{f}} \, \right), \, \frac{f \left(-d\,g+c\,h \right)}{\left(-d\,e+c\,f \right)\,h} \, \right) - \\ & \left(\sqrt{-\frac{-d\,e+c\,f}{f}} \, \right), \, \frac{f \left(-d\,g+c\,h \right)}{\left(-d\,e+c\,f \right)\,h} \, \right) - \\ & \left(\sqrt{-\frac{-d\,e+c\,f}{f}} \, \right), \, \frac{f \left(-d\,g+c\,h \right)}{\left(-d\,e+c\,f \right)\,h} \, \right) - \\ & \left(\sqrt{-\frac{d\,e+c\,f}{f}} \, \right)$$

$$\left(\sqrt{-\frac{-d\,e + c\,f}{f}} \; \left(-d\,g + c\,h \right) \; \sqrt{ \left(f + \frac{d\,e - c\,f}{c + d\,x} \right) \; \left(h + \frac{d\,g - c\,h}{c + d\,x} \right) } \; \right) - \frac{1}{c} \left(-d\,g + c\,h \right) \; \sqrt{ \left(f + \frac{d\,e - c\,f}{f} \right) \; \sqrt{ \left(f + \frac{d\,g - c\,h}{h} \right) \; \left(h + \frac{d\,g - c\,h}{h} \right) } \; \right) - \frac{1}{c} \left(-d\,g + c\,h \right) \; \sqrt{ \left(f + \frac{d\,e + c\,f}{f} \right) \; \left(-d\,g + c\,h \right) \; \left(-d\,g + c\,h \right) \; \left(-d\,g + c\,f \right) \; h} \right] - \frac{1}{c} \left(-d\,g + c\,f \right) \; \sqrt{ \left(f + \frac{d\,e - c\,f}{f} \right) \; \left(h + \frac{d\,g - c\,h}{c + d\,x} \right) \; \left(h + \frac{d\,g - c\,h}{c + d\,x} \right) \; \right) - \frac{1}{c} \left(-d\,g + c\,h \right) \; \sqrt{ \left(f + \frac{d\,e - c\,f}{f} \right) \; \left(h + \frac{d\,g - c\,h}{h\,\left(c + d\,x \right) \; h} \right) \; - \frac{1}{c} \left(-d\,g + c\,h \right) \; \sqrt{ \left(f + \frac{d\,e - c\,f}{f} \right) \; \left(-d\,g + c\,h \right) \; \left(-d\,g + c\,f \right) \; h} \; \right) - \frac{1}{c} \left(-d\,g + c\,f \right) \; \left(-d\,g + c\,f \right) \; h \; \right) \; - \frac{1}{c} \left(-d\,g + c\,f \right) \; h \; \left(-d\,g + c\,f \right) \; h \; \right) \; - \frac{1}{c} \left(-d\,g + c\,f \right) \; h \; \left(-d\,g + c\,f \right) \; h \; \right) \; - \frac{1}{c} \left(-d\,g + c\,f \right) \; h \; \left(-d\,g + c\,f \right) \; h \; \right) \; - \frac{1}{c} \left(-d\,g + c\,f \right) \; h \; \left(-d\,g + c\,f \right) \; h \; \right) \; - \frac{1}{c} \left(-d\,g + c\,f \right) \; h \; \left(-d\,g + c\,f \right) \; h \; \right) \; - \frac{1}{c} \left(-d\,g + c\,f \right) \; h \; \left(-d\,g + c\,f \right) \; h \; \right) \; - \frac{1}{c} \left(-d\,g + c\,f \right) \; h \; \left(-d\,g + c\,f \right) \; h \; \right) \; - \frac{1}{c} \left(-d\,g + c\,f \right) \; h \; \left(-d\,g + c\,f \right) \; h \; \right) \; - \frac{1}{c} \left(-d\,g + c\,f \right) \; h \; \left(-d\,g + c\,f \right) \; h \; \left(-d\,g + c\,f \right) \; h \; \right) \; - \frac{1}{c} \left(-d\,g + c\,f \right) \; h \; \left(-d\,g + c\,f \right$$

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

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

$$48 \; \dot{\mathbb{1}} \; b^2 \; C \; d^5 \; e^4 \; g \; h^4 \; \sqrt{ \; 1 - \frac{-\,d \; e \, + \, c \; f}{f \; \left(\, c \, + \, d \; x \, \right) } } \; \; \sqrt{ \; 1 - \frac{-\,d \; g \, + \, c \; h}{h \; \left(\, c \, + \, d \; x \, \right) } }$$

$$\left[\text{EllipticE} \left[\text{i ArcSinh} \left[\frac{\sqrt{-\frac{-d\,e_{+}c\,f}{f}}}{\sqrt{c_{\,+}\,d\,x_{\,-}}} \right] \text{, } \frac{f\,\left(-\,d\,g_{\,+}\,c\,h\right)}{\left(-\,d\,e_{\,+}\,c\,f\right)\,h} \right] - \right.$$

$$\label{eq:final_continuous_con$$

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

$$\begin{split} & \text{EllipticE} \left[\text{i} \, \text{ArcSinh} \left[\frac{\sqrt{-\frac{-d\, e + c\, f}{f}}}{\sqrt{c + d\, x}} \right], \, \frac{f\left(-d\, g + c\, h \right)}{\left(-d\, e + c\, f \right)\, h} \right] - \\ & \text{EllipticF} \left[\text{i} \, \text{ArcSinh} \left[\frac{\sqrt{-\frac{-d\, e + c\, f}{f}}}{\sqrt{c + d\, x}} \right], \, \frac{f\left(-d\, g + c\, h \right)}{\left(-d\, e + c\, f \right)\, h} \right] \right] / \\ & \left(\sqrt{-\frac{-d\, e + c\, f}{f}} \, \left(-d\, g + c\, h \right) \, \sqrt{\left(f + \frac{d\, e - c\, f}{c + d\, x} \right) \, \left(h + \frac{d\, g - c\, h}{c + d\, x} \right)} \, \right) - \\ & \left[112\, \text{i} \, a\, b\, C\, d^5\, e^3\, f\, g\, h^4 \, \sqrt{1 - \frac{-d\, e + c\, f}{f\left(c + d\, x \right)}} \, \sqrt{1 - \frac{-d\, g + c\, h}{h\left(c + d\, x \right)}} \, \right] - \\ & \left[\text{EllipticE} \left[\, \text{i} \, \text{ArcSinh} \left[\, \frac{\sqrt{-\frac{-d\, e + c\, f}{f}}}{\sqrt{c + d\, x}} \, \right], \, \frac{f\left(-d\, g + c\, h \right)}{\left(-d\, e + c\, f \right)\, h} \, \right] - \\ & \left[\text{EllipticF} \left[\, \text{i} \, \text{ArcSinh} \left[\, \frac{\sqrt{-\frac{-d\, e + c\, f}{f}}}{\sqrt{c + d\, x}} \, \right], \, \frac{f\left(-d\, g + c\, h \right)}{\left(-d\, e + c\, f \right)\, h} \, \right] \right] / \\ & \left(\sqrt{-\frac{-d\, e + c\, f}{f}} \, \left(-d\, g + c\, h \right) \, \sqrt{\left(f + \frac{d\, e - c\, f}{c + d\, x} \right) \, \left(h + \frac{d\, g - c\, h}{c + d\, x} \right)} \, \right] + \\ \end{aligned} \right. \end{split}$$

$$\left[\text{EllipticE} \left[\text{i} \; \text{ArcSinh} \left[\; \frac{\sqrt{-\frac{-\text{d}\, e + c\, f}{f}}}{\sqrt{c + \text{d}\, x}} \right] \text{, } \; \frac{f \left(-\, \text{d}\, g + c\, h \right)}{\left(-\, \text{d}\, e + c\, f \right) \; h} \right] \; - \right] = 0$$

 $\begin{vmatrix} 4 \pm b^2 c^2 C d^3 e^2 f^2 g h^4 \\ \sqrt{1 - \frac{-d e + c f}{f (c + d x)}} \\ \sqrt{1 - \frac{-d g + c h}{h (c + d x)}} \end{vmatrix}$

$$\begin{split} & \text{EllipticF}\big[\text{i}\,\text{ArcSinh}\big[\frac{\sqrt{-\frac{-de+cf}{f}}}{\sqrt{c+dx}}\big],\,\frac{f\left(-d\,g+c\,h\right)}{\left(-d\,e+c\,f\right)\,h}\big] \bigg] \bigg/ \\ & \left(\sqrt{-\frac{-d\,e+c\,f}{f}}\,\left(-d\,g+c\,h\right)\,\sqrt{\left(f+\frac{d\,e-c\,f}{c+d\,x}\right)\left(h+\frac{d\,g-c\,h}{c+d\,x}\right)}\right) + \\ & \left(112\,\text{i}\,a\,b\,c\,C\,d^4\,e^2\,f^2\,g\,h^4\,\sqrt{1-\frac{-d\,e+c\,f}{f}\,\left(c+d\,x\right)}}\,\sqrt{1-\frac{-d\,g+c\,h}{h\,\left(c+d\,x\right)}}\right) + \\ & \left[\text{EllipticE}\big[\text{i}\,\text{ArcSinh}\big[\frac{\sqrt{-\frac{-d\,e+c\,f}{f}}}{\sqrt{c+d\,x}}\big],\,\frac{f\left(-d\,g+c\,h\right)}{\left(-d\,e+c\,f\right)\,h}\big] - \\ & \left[\text{EllipticF}\big[\text{i}\,\text{ArcSinh}\big[\frac{\sqrt{-\frac{-d\,e+c\,f}{f}}}{\sqrt{c+d\,x}}\big],\,\frac{f\left(-d\,g+c\,h\right)}{\left(-d\,e+c\,f\right)\,h}\big] \right] \bigg/ \\ & \left(\sqrt{-\frac{-d\,e+c\,f}{f}}\,\left(-d\,g+c\,h\right)\,\sqrt{\left(f+\frac{d\,e-c\,f}{c+d\,x}\right)\left(h+\frac{d\,g-c\,h}{c+d\,x}\right)}\right) + \\ & \left[\text{70}\,\,\text{i}\,\text{A}\,b^2\,d^5\,e^2\,f^2\,g\,h^4\,\sqrt{1-\frac{-d\,e+c\,f}{f\,\left(c+d\,x\right)}}\,\sqrt{1-\frac{-d\,g+c\,h}{h\,\left(c+d\,x\right)}}}\right] \\ & \left[\text{EllipticE}\big[\,\text{i}\,\text{ArcSinh}\big[\,\frac{\sqrt{-\frac{-d\,e+c\,f}{f}}}{\sqrt{c+d\,x}}\,\big],\,\frac{f\left(-d\,g+c\,h\right)}{\left(-d\,e+c\,f\right)\,h}\,\big] \right] \bigg/ \\ & \left[\text{EllipticF}\big[\,\text{i}\,\text{ArcSinh}\big[\,\frac{\sqrt{-\frac{-d\,e+c\,f}{f}}}{\sqrt{c+d\,x}}\,\big],\,\frac{f\left(-d\,g+c\,h\right)}{\left(-d\,e+c\,f\right)\,h}\,\big] \right] \bigg/ \end{aligned}$$

$$\left(\sqrt{-\frac{-d\,e + c\,f}{f}} \, \left(-d\,g + c\,h \right) \, \sqrt{\left(f + \frac{d\,e - c\,f}{c + d\,x} \right) \, \left(h + \frac{d\,g - c\,h}{c + d\,x} \right)} \, \right) + \\ \\ \left(70\,\,i\,\,a^2\,C\,d^5\,e^2\,f^2\,g\,h^4 \, \sqrt{1 - \frac{-d\,e + c\,f}{f} \, \left(c + d\,x \right)} \, \sqrt{1 - \frac{-d\,g + c\,h}{h\,\left(c + d\,x \right)}} \right) + \\ \\ \left(EllipticE\left[i\,ArcSinh\left[\frac{\sqrt{-\frac{-d\,e + c\,f}{f}}}{\sqrt{c + d\,x}} \right], \, \frac{f\,\left(-d\,g + c\,h \right)}{\left(-d\,e + c\,f \right)\,h} \right] - \\ \\ EllipticF\left[i\,ArcSinh\left[\frac{\sqrt{-\frac{-d\,e + c\,f}{f}}}{\sqrt{c + d\,x}} \right], \, \frac{f\,\left(-d\,g + c\,h \right)}{\left(-d\,e + c\,f \right)\,h} \right] \right) \right/ \\ \\ \left(\sqrt{-\frac{-d\,e + c\,f}{f}} \, \left(-d\,g + c\,h \right) \, \sqrt{\left(f + \frac{d\,e - c\,f}{c + d\,x} \right) \, \left(h + \frac{d\,g - c\,h}{h\,\left(c + d\,x \right)}} \right) + \\ \\ \left(EllipticE\left[i\,ArcSinh\left[\frac{\sqrt{-\frac{-d\,e + c\,f}{f}}}{\sqrt{c + d\,x}} \right], \, \frac{f\,\left(-d\,g + c\,h \right)}{\left(-d\,e + c\,f \right)\,h} \right] - \\ \\ EllipticF\left[i\,ArcSinh\left[\frac{\sqrt{-\frac{-d\,e + c\,f}{f}}}{\sqrt{c + d\,x}} \right], \, \frac{f\,\left(-d\,g + c\,h \right)}{\left(-d\,e + c\,f \right)\,h} \right] \right) \right/ \\ \\ \left(\sqrt{-\frac{-d\,e + c\,f}{f}} \, \left(-d\,g + c\,h \right) \, \sqrt{\left(f + \frac{d\,e - c\,f}{c + d\,x} \right) \, \left(h + \frac{d\,g - c\,h}{c + d\,x} \right)} \, \right) - \\ \\ \left(\sqrt{-\frac{-d\,e + c\,f}{f}} \, \left(-d\,g + c\,h \right) \, \sqrt{\left(f + \frac{d\,e - c\,f}{c + d\,x} \right) \, \left(h + \frac{d\,g - c\,h}{c + d\,x} \right)} \, \right) - \\ \\ \left(\sqrt{-\frac{-d\,e + c\,f}{f}} \, \left(-d\,g + c\,h \right) \, \sqrt{\left(f + \frac{d\,e - c\,f}{c + d\,x} \right) \, \left(h + \frac{d\,g - c\,h}{c + d\,x} \right)} \, \right) - \\ \\ \left(\sqrt{-\frac{-d\,e + c\,f}{f}} \, \left(-d\,g + c\,h \right) \, \sqrt{\left(f + \frac{d\,e - c\,f}{c + d\,x} \right) \, \left(h + \frac{d\,g - c\,h}{c + c\,f} \right)} \, \right) - \\ \\ \left(\sqrt{-\frac{-d\,e + c\,f}{f}} \, \left(-d\,g + c\,h \right) \, \sqrt{\left(f + \frac{d\,e - c\,f}{c + d\,x} \right) \, \left(h + \frac{d\,g - c\,h}{c + d\,x} \right)} \, \right) - \\ \\ \left(\sqrt{-\frac{-d\,e + c\,f}{f}} \, \left(-d\,g + c\,h \right) \, \sqrt{\left(f + \frac{d\,e - c\,f}{c + d\,x} \right) \, \left(h + \frac{d\,g - c\,h}{c + d\,x} \right)} \, \right) - \\ \\ \left(\sqrt{-\frac{-d\,e + c\,f}{f}} \, \left(-d\,g + c\,h \right) \, \sqrt{\left(f + \frac{d\,e - c\,f}{c + d\,x} \right) \, \left(h + \frac{d\,g - c\,h}{c + c\,f} \right)} \, \right) \right) - \\ \\ \left(\sqrt{-\frac{-d\,e + c\,f}{f}} \, \left(-d\,g + c\,h \right) \, \sqrt{\left(-\frac{d\,e - c\,f}{f} \, \left(-d\,g + c\,h \right) \, \left(-\frac{d\,e - c\,f}{c + c\,f} \, \left(-d\,g + c\,h \right) \, \right)} \right) \right) \right) \right) + \\ \\ \left(\sqrt{-\frac{-d\,e - c\,f}{f}} \, \left(-d\,g + c\,h \right) \, \sqrt{\left(-\frac{d\,e - c\,f}{f} \, \left(-d\,g + c\,h \right) \, \left(-\frac{d\,e - c\,f}{c + c\,f} \, \left(-\frac{d\,e - c\,f}{c + c\,f} \, \left(-$$

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

$$\label{eq:final_continuous_con$$

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

$$\left[\text{EllipticE} \left[\, \dot{\mathbb{1}} \, \, \text{ArcSinh} \left[\, \frac{\sqrt{-\, \frac{-\, d\, e + c\, f}{f}}}{\sqrt{\, c \, + \, d\, x}} \, \right] \, , \, \, \frac{f\, \left(-\, d\, g \, + \, c\, \, h \right)}{\left(-\, d\, e \, + \, c\, \, f \right) \, \, h} \, \right] \, - \right.$$

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

$$\begin{bmatrix} \text{EllipticE} \big[\text{i} \, \text{ArcSinh} \big[\frac{\sqrt{-\frac{-\text{de+cf}}{f}}}{\sqrt{c+d\,x}} \big], \, \frac{f \left(-\text{d}\,g+c\,h \right)}{\left(-\text{d}\,e+c\,f \right)\,h} \big] - \\ \\ \text{EllipticF} \big[\text{i} \, \text{ArcSinh} \big[\frac{\sqrt{-\frac{-\text{de+cf}}{f}}}{\sqrt{c+d\,x}} \big], \, \frac{f \left(-\text{d}\,g+c\,h \right)}{\left(-\text{d}\,e+c\,f \right)\,h} \big] \end{bmatrix} \bigg/ \\ \\ \left(\sqrt{-\frac{-\text{de+cf}}{f}} \, \left(-\text{d}\,g+c\,h \right) \, \sqrt{\left(f+\frac{\text{de-cf}}{c+d\,x} \right) \, \left(h+\frac{\text{dg-ch}}{c+d\,x} \right)} \right) - \\ \\ 210 \, \text{i} \, \text{a} \, \text{Ab} \, \text{d}^5 \, \text{e} \, \text{f}^3 \, \text{g} \, \text{h}^4 \, \sqrt{1-\frac{-\text{de+cf}}{f \left(c+d\,x \right)}} \, \sqrt{1-\frac{-\text{dg+ch}}{h \left(c+d\,x \right)}} \\ \\ \\ \begin{bmatrix} \text{EllipticE} \big[\, \text{i} \, \text{ArcSinh} \big[\, \frac{\sqrt{-\frac{-\text{de+cf}}{f}}}{f} \, \\ \sqrt{c+d\,x} \, \\ \end{bmatrix}, \, \frac{f \left(-\text{dg+ch} \right)}{\left(-\text{de+cf} \right)\,h} \big] - \\ \\ \\ \text{EllipticF} \big[\, \text{i} \, \text{ArcSinh} \big[\, \frac{\sqrt{-\frac{-\text{de+cf}}{f}}}{f} \, \\ \sqrt{c+d\,x} \, \\ \end{bmatrix}, \, \frac{f \left(-\text{dg+ch} \right)}{\left(-\text{de+cf} \right)\,h} \big] \bigg] \bigg/$$

$$\begin{split} & \text{EllipticF} \big[\text{i} \, \text{ArcSinh} \big[\frac{\sqrt{-\frac{-d \, \text{e} \, \text{c} \, \text{f}}}}{\sqrt{c + d \, \text{x}}} \big], \, \frac{f \, \left(-d \, \text{g} \, \text{c} \, \text{h} \right)}{\left(-d \, \text{e} \, \text{c} \, \text{f} \right) \, h} \big] \bigg] \bigg/ \\ & \left(\sqrt{-\frac{-d \, \text{e} \, \text{c} \, \text{f}}{f}} \, \left(-d \, \text{g} \, \text{c} \, \text{c} \right) \, \sqrt{\left(f + \frac{d \, \text{e} \, \text{c} \, \text{f}}{c + d \, \text{x}} \right) \, \left(h + \frac{d \, \text{g} \, \text{c} \, \text{h}}{c + d \, \text{x}} \right)} \, \right) + \\ & \left(14 \, \text{i} \, \text{a} \, \text{b} \, \text{c}^3 \, \text{C} \, d^2 \, f^4 \, \text{g} \, \text{h}^4 \, \sqrt{1 - \frac{-d \, \text{e} \, \text{c} \, \text{f}}{f} \, \left(c + d \, \text{x} \right)} \, \sqrt{1 - \frac{-d \, \text{g} \, \text{c} \, \text{h}}{h} \, \left(c + d \, \text{x} \right)}} \right) + \\ & \left(14 \, \text{i} \, \text{a} \, \text{b} \, \text{c}^3 \, \text{C} \, d^2 \, f^4 \, \text{g} \, \text{h}^4 \, \sqrt{1 - \frac{-d \, \text{e} \, \text{c} \, \text{f}}{f} \, \left(c + d \, \text{x} \right)} \, \sqrt{1 - \frac{-d \, \text{g} \, \text{c} \, \text{h}}{h} \, \left(c + d \, \text{x} \right)}} \right] - \\ & \left(14 \, \text{i} \, \text{a} \, \text{b} \, \text{c}^3 \, \text{C} \, d^2 \, f^4 \, \text{g} \, \text{h}^4 \, \sqrt{1 - \frac{-d \, \text{e} \, \text{c} \, \text{f}}{f} \, \left(c + d \, \text{x} \right)}} \, \sqrt{1 - \frac{-d \, \text{g} \, \text{c} \, \text{h}}{h} \, \left(c + d \, \text{x} \right)}} \right] - \\ & \left(14 \, \text{i} \, \text{a} \, \text{b} \, \text{c}^3 \, \text{C} \, d^2 \, f^4 \, g \, h^4 \, \sqrt{1 - \frac{-d \, \text{e} \, \text{c} \, \text{f}}{f} \, \left(-d \, \text{g} \, \text{c} \, \text{h} \right)}} \right) - \\ & \left(14 \, \text{i} \, \text{a} \, \text{b} \, \text{c}^3 \, \text{C} \, d^2 \, f^4 \, g \, h^4 \, \sqrt{1 - \frac{-d \, \text{e} \, \text{c} \, \text{f}}{f} \, \left(-d \, \text{g} \, \text{c} \, \text{h} \right)}} \right) - \\ & \left(14 \, \text{i} \, \text{a} \, \text{b} \, \text{c}^3 \, \text{C} \, d^2 \, f^4 \, g \, h^4 \, \sqrt{1 - \frac{-d \, \text{e} \, \text{c} \, \text{f}}{f} \, \left(-d \, \text{g} \, \text{c} \, \text{c} \, \text{h} \right)}} \right) \right) - \\ & \left(14 \, \text{i} \, \text{a} \, \text{b} \, \text{c}^3 \, \text{C} \, d^2 \, f^4 \, g \, h^4 \, \sqrt{1 - \frac{-d \, \text{e} \, \text{c} \, \text{f}}{f} \, \left(-d \, \text{g} \, \text{c} \, \text{c} \, \text{h} \right)}} \right) \right) - \\ & \left(14 \, \text{i} \, \text{a} \, \text{b} \, \text{c}^3 \, \text{c}^$$

$$\left(\sqrt{-\frac{-d\,e + c\,f}{f}} \, \left(-d\,g + c\,h \right) \, \sqrt{\left(f + \frac{d\,e - c\,f}{c + d\,x} \right) \, \left(h + \frac{d\,g - c\,h}{c + d\,x} \right)} \, \right) - \\ \left(48\,i\,b^2\,c\,C\,d^4\,e^4\,h^5 \, \sqrt{1 - \frac{-d\,e + c\,f}{f} \, \left(c + d\,x \right)} \, \sqrt{1 - \frac{-d\,g + c\,h}{h \, \left(c + d\,x \right)}} \right) - \\ \left(EllipticE \left[i\,ArcSinh \left[\frac{\sqrt{-\frac{-d\,e + c\,f}{f}}}{\sqrt{c + d\,x}} \right], \, \frac{f \left(-d\,g + c\,h \right)}{\left(-d\,e + c\,f \right)\,h} \right] - \\ \left(\sqrt{-\frac{-d\,e + c\,f}{f}} \, \left(-d\,g + c\,h \right) \, \sqrt{\left(f + \frac{d\,e - c\,f}{c + d\,x} \right) \, \left(h + \frac{d\,g - c\,h}{c + d\,x} \right)} \right) + \\ \left(8\,i\,b^2\,c^2\,C\,d^3\,e^3\,f\,h^5 \, \sqrt{1 - \frac{-d\,e + c\,f}{f \, \left(c + d\,x \right)}} \, \sqrt{1 - \frac{-d\,g + c\,h}{h \, \left(c + d\,x \right)}} \right) + \\ \left(EllipticE \left[i\,ArcSinh \left[\frac{\sqrt{-\frac{-d\,e + c\,f}{f}}}{\sqrt{c + d\,x}} \right], \, \frac{f \left(-d\,g + c\,h \right)}{\left(-d\,e + c\,f \right)\,h} \right] - \\ EllipticF \left[i\,ArcSinh \left[\frac{\sqrt{-\frac{-d\,e + c\,f}{f}}}{\sqrt{c + d\,x}} \right], \, \frac{f \left(-d\,g + c\,h \right)}{\left(-d\,e + c\,f \right)\,h} \right] \right) \right/ \\ \left(-d\,e + c\,f \right) h \right] \right) \right)$$

 $\left\lceil \sqrt{-\frac{-d\ e+c\ f}{f}} \right\rceil \left(-d\ g+c\ h\right) \ \sqrt{\left(f+\frac{d\ e-c\ f}{c+d\ x}\right) \left(h+\frac{d\ g-c\ h}{c+d\ x}\right)} \ \left| +\frac{d\ g-c\ h}{c+d\ x}\right\rangle$

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

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

$$\left[\text{EllipticE} \left[\text{i ArcSinh} \left[\frac{\sqrt{-\frac{-d\,e_{+}c\,f}{f}}}{\sqrt{c_{\,+}\,d\,x_{\,-}}} \right] \text{, } \frac{f\,\left(-\,d\,g_{\,+}\,c\,h\right)}{\left(-\,d\,e_{\,+}\,c\,f\right)\,h} \right] - \right.$$

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

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

$$\label{eq:final_continuous_con$$

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

$$\left[\text{EllipticE} \left[\text{i ArcSinh} \left[\frac{\sqrt{-\frac{-d\,e_{+}c\,f}{f}}}{\sqrt{c_{\,+}\,d\,x_{\,-}}} \right] \text{, } \frac{f\,\left(-\,d\,g_{\,+}\,c\,h\right)}{\left(-\,d\,e_{\,+}\,c\,f\right)\,h} \right] - \right] \right]$$

$$\left(\sqrt{-\frac{-d \, e + c \, f}{f}} \quad \left(-d \, g + c \, h \right) \, \sqrt{\left(f + \frac{d \, e - c \, f}{c + d \, x} \right) \, \left(h + \frac{d \, g - c \, h}{c + d \, x} \right) \, \right) - \frac{d \, g - c \, h}{c + d \, x}} \right) \, dx + \frac{d \, g - c \, h}{c + d \, x} + \frac{d \,$$

$$\left[\text{EllipticE} \left[\, \dot{\mathbb{1}} \, \, \text{ArcSinh} \left[\, \frac{\sqrt{- \, \frac{-d \, e + c \, f}{f}}}{\sqrt{c + d \, x}} \, \right] \, , \, \, \frac{f \, \left(-d \, g + c \, h \right)}{\left(-d \, e + c \, f \right) \, h} \, \right] \, - \right] \, .$$

$$\begin{split} & \text{EllipticF} \big[\text{ i ArcSinh} \big[\frac{\sqrt{-\frac{-de+cf}{f}}}{\sqrt{c+d\,x}} \big], \, \frac{f\left(-d\,g+c\,h\right)}{\left(-d\,e+c\,f\right)\,h} \big] \bigg] \bigg/ \\ & \left(\sqrt{-\frac{-d\,e+c\,f}{f}} \, \left(-d\,g+c\,h \right) \, \sqrt{\left(f+\frac{d\,e-c\,f}{c+d\,x}\right) \, \left(h+\frac{d\,g-c\,h}{c+d\,x}\right)} \, \right) + \\ & \left(14\,\text{ i a b } c^3\,C\,d^2\,e\,f^3\,h^5 \, \sqrt{1-\frac{-d\,e+c\,f}{f\left(c+d\,x\right)}} \, \sqrt{1-\frac{-d\,g+c\,h}{h\left(c+d\,x\right)}} \right) + \\ & \left[\text{EllipticE} \big[\text{ i ArcSinh} \big[\frac{\sqrt{-\frac{-d\,e+c\,f}{f}}}{\sqrt{c+d\,x}} \big], \, \frac{f\left(-d\,g+c\,h\right)}{\left(-d\,e+c\,f\right)\,h} \big] - \\ & \left[\text{EllipticF} \big[\text{ i ArcSinh} \big[\frac{\sqrt{-\frac{-d\,e+c\,f}{f}}}{\sqrt{c+d\,x}} \big], \, \frac{f\left(-d\,g+c\,h\right)}{\left(-d\,e+c\,f\right)\,h} \right] \right] \\ & \left[\sqrt{-\frac{-d\,e+c\,f}{f}} \, \left(-d\,g+c\,h \right) \, \sqrt{\left(f+\frac{d\,e-c\,f}{c+d\,x}\right) \, \left(h+\frac{d\,g-c\,h}{c+d\,x}\right)} \right] + \\ & \left[\text{EllipticE} \big[\text{ i ArcSinh} \big[\frac{\sqrt{-\frac{-d\,e+c\,f}{f}}}{\sqrt{c+d\,x}} \big], \, \frac{f\left(-d\,g+c\,h\right)}{\left(-d\,e+c\,f\right)\,h} \big] - \\ & \left[\text{EllipticF} \big[\text{ i ArcSinh} \big[\frac{\sqrt{-\frac{-d\,e+c\,f}{f}}}{\sqrt{c+d\,x}} \big], \, \frac{f\left(-d\,g+c\,h\right)}{\left(-d\,e+c\,f\right)\,h} \big] \right] \right/ \\ & \left[\text{EllipticF} \big[\text{ i ArcSinh} \big[\frac{\sqrt{-\frac{-d\,e+c\,f}{f}}}{\sqrt{c+d\,x}} \big], \, \frac{f\left(-d\,g+c\,h\right)}{\left(-d\,e+c\,f\right)\,h} \big] \right] \right/ \end{aligned}$$

$$\left[\sqrt{-\frac{-de+cf}{f}} \left(-dg+ch \right) \cdot \sqrt{\left(f + \frac{de-cf}{c+dx} \right) \left(h + \frac{dg-ch}{c+dx} \right)} \right] + \\ \left[48 \text{ i} \, b^2 \, c^5 \, C \, f^4 \, h^5 \, \sqrt{1 - \frac{-de+cf}{f} \left(c+dx \right)} \, \sqrt{1 - \frac{-dg+ch}{h} \left(c+dx \right)} \right] \\ \left[\frac{f \left(-dg+ch \right)}{\left(-de+cf \right) h} \right] - \text{EllipticF} \left[\text{ i} \, ArcSinh \left[\frac{\sqrt{-\frac{-de+cf}{f}}}{f}}{\sqrt{c+dx}} \right], \frac{f \left(-dg+ch \right)}{\left(-de+cf \right) h} \right] \right] \right] / \\ \left[\sqrt{-\frac{-de+cf}{f}} \left(-dg+ch \right) \sqrt{\left(f + \frac{de-cf}{c+dx} \right) \left(h + \frac{dg-ch}{c+dx} \right)} \right] - \\ \left[112 \, \text{ i} \, ab \, c^4 \, Cd \, f^4 \, h^5 \, \sqrt{1 - \frac{-de+cf}{f}} \left(c+dx \right)} \, \sqrt{1 - \frac{-dg+ch}{h} \left(-dg+ch \right)} \right] - \\ \left[\text{EllipticE} \left[\text{ i} \, ArcSinh \left[\frac{\sqrt{-\frac{-de+cf}{f}}}{\sqrt{c+dx}} \right], \frac{f \left(-dg+ch \right)}{\left(-de+cf \right) h} \right] - \\ \left[\text{EllipticF} \left[\text{ i} \, ArcSinh \left[\frac{\sqrt{-\frac{-de+cf}{f}}}{\sqrt{c+dx}} \right], \frac{f \left(-dg+ch \right)}{\left(-de+cf \right) h} \right] \right] / \\ \left[\sqrt{-\frac{-de+cf}{f}} \left(-dg+ch \right) \sqrt{\left(f + \frac{de-cf}{c+dx} \right) \left(h + \frac{dg-ch}{c+dx} \right)} \right] + \\ \left[70 \, \text{ i} \, Ab^2 \, c^3 \, d^2 \, f^4 \, h^5 \, \sqrt{1 - \frac{-de+cf}{f} \left(c+dx \right)} \, \sqrt{1 - \frac{-dg+ch}{h} \left(c+dx \right)} \right] \right] + \\ \left[70 \, \text{ i} \, Ab^2 \, c^3 \, d^2 \, f^4 \, h^5 \, \sqrt{1 - \frac{-de+cf}{f} \left(c+dx \right)} \, \sqrt{1 - \frac{-dg+ch}{h} \left(c+dx \right)} \right)} \right] + \\ \left[70 \, \text{ i} \, Ab^2 \, c^3 \, d^2 \, f^4 \, h^5 \, \sqrt{1 - \frac{-de+cf}{f} \left(c+dx \right)} \, \sqrt{1 - \frac{-dg+ch}{h} \left(c+dx \right)} \right] \right] + \\ \left[70 \, \text{ i} \, Ab^2 \, c^3 \, d^2 \, f^4 \, h^5 \, \sqrt{1 - \frac{-de+cf}{f} \left(c+dx \right)} \, \sqrt{1 - \frac{-dg+ch}{h} \left(c+dx \right)} \right] \right] + \\ \left[70 \, \text{ i} \, Ab^2 \, c^3 \, d^2 \, f^4 \, h^5 \, \sqrt{1 - \frac{-de+cf}{f} \left(c+dx \right)} \, \sqrt{1 - \frac{-dg+ch}{h} \left(c+dx \right)} \right] \right] + \\ \left[70 \, \text{ i} \, Ab^2 \, c^3 \, d^2 \, f^4 \, h^5 \, \sqrt{1 - \frac{-de+cf}{f} \left(c+dx \right)} \, \sqrt{1 - \frac{-dg+ch}{h} \left(c+dx \right)} \right] \right] + \\ \left[70 \, \text{ i} \, Ab^2 \, c^3 \, d^2 \, f^4 \, h^5 \, \sqrt{1 - \frac{-de+cf}{f} \left(c+dx \right)} \, \sqrt{1 - \frac{-dg+ch}{h} \left(c+dx \right)} \right] \right] + \\ \left[70 \, \text{ i} \, Ab^2 \, c^3 \, d^2 \, f^4 \, h^5 \, \sqrt{1 - \frac{-de+cf}{f} \left(c+dx \right)} \, \sqrt{1 - \frac{-dg+ch}{h} \left(c+dx \right)} \right] \right] + \\ \left[70 \, \text{ i} \, Ab^2 \, c^3 \, d^2 \, f^4 \, h^5 \, \sqrt{1 - \frac{-de+cf}{f} \left(c+dx \right)} \right] \right] + \\ \left[70 \, \text{ i} \, Ab^2 \, c^3 \, d^2 \, f^4 \, h^5 \, \sqrt{1 - \frac{-de+cf}{f} \left(c+dx \right)} \right] \right]$$

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

$$\label{eq:final_continuous_con$$

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

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

$$\label{eq:final_continuous_con$$

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

$$\left[\text{EllipticE} \left[\, \dot{\mathbb{1}} \, \operatorname{ArcSinh} \left[\, \frac{\sqrt{-\, \frac{-d\, e + c\, f}{f}}}{\sqrt{\, c \, + \, d\, x}} \, \right] \, , \, \, \frac{f\, \left(-\, d\, g \, + \, c\, \, h \right)}{\left(-\, d\, e \, + \, c\, \, f \right) \, \, h} \, \right] \, - \right] \, . \right] \, .$$

$$\begin{split} & \text{EllipticF}\left[\text{i} \, \text{ArcSinh}\left[\frac{\sqrt{-\frac{-\text{d} \, \text{e} \, \text{c} \, \text{f}}}{f}}{\sqrt{c + \text{d} \, \text{x}}}\right], \, \frac{f\left(-\text{d} \, \text{g} \, + \text{c} \, \text{h}\right)}{\left(-\text{d} \, \text{e} \, + \text{c} \, \text{f}\right) \, \text{h}}\right] \bigg] \bigg/ \\ & \left(\sqrt{-\frac{-\text{d} \, \text{e} \, + \text{c} \, \text{f}}{f}}} \, \left(-\text{d} \, \text{g} \, + \text{c} \, \text{h}\right) \, \sqrt{\left(f + \frac{\text{d} \, \text{e} \, - \text{c} \, \text{f}}{c + \text{d} \, \text{x}}\right) \, \left(h + \frac{\text{d} \, \text{g} \, - \text{c} \, \text{h}}{c + \text{d} \, \text{x}}\right)}\right) - \\ & \left(24 \, \text{i} \, \, \text{b}^2 \, \text{C} \, \text{d}^4 \, \text{e} \, \text{f}^3 \, \text{g}^3 \, \text{h} \, \sqrt{1 - \frac{-\text{d} \, \text{e} \, + \text{c} \, \text{f}}{f} \, \left(c + \text{d} \, \text{x}\right)}} \, \sqrt{1 - \frac{-\text{d} \, \text{g} \, + \text{c} \, \text{h}}{h \, \left(c + \text{d} \, \text{x}\right)}}\right) + \\ & \left(\sqrt{-\frac{-\text{d} \, \text{e} \, + \text{c} \, \text{f}}{f}} \, \sqrt{\left(f + \frac{\text{d} \, \text{e} \, - \text{c} \, \text{f}}{c + \text{d} \, \text{x}}\right) \left(h + \frac{\text{d} \, \text{g} \, - \text{c} \, \text{h}}{c + \text{d} \, \text{x}}\right)}\right) + \\ & \left(24 \, \text{i} \, \, \text{b}^2 \, \text{c} \, \text{C} \, \text{d}^3 \, \, \text{f}^4 \, \, \text{g}^3 \, \text{h} \, \sqrt{1 - \frac{-\text{d} \, \text{e} \, + \text{c} \, \text{f}}{f \, \left(c + \text{d} \, \text{x}\right)}}} \, \sqrt{1 - \frac{-\text{d} \, \text{g} \, + \text{c} \, \text{h}}{h \, \left(c + \text{d} \, \text{x}\right)}}\right) + \\ & \left(\sqrt{-\frac{-\text{d} \, \text{e} \, + \text{c} \, \text{f}}{f}} \, \sqrt{\left(f + \frac{\text{d} \, \text{e} \, - \text{c} \, \text{f}}{c + \text{d} \, \text{x}}\right) \left(h + \frac{\text{d} \, \text{g} \, - \text{c} \, \text{h}}{c + \text{d} \, \text{x}}\right)}{\left(-\text{d} \, \text{e} \, + \text{c} \, \text{f}\right) \, h}}\right] \right/ \\ & \left(\sqrt{-\frac{-\text{d} \, \text{e} \, + \text{c} \, \text{f}}{f}} \, \sqrt{\left(f + \frac{\text{d} \, \text{e} \, - \text{c} \, \text{f}}{c + \text{d} \, \text{x}}\right) \left(h + \frac{\text{d} \, \text{g} \, - \text{c} \, \text{h}}{c + \text{d} \, \text{x}}\right)}\right) - \\ & \left(\sqrt{-\frac{-\text{d} \, \text{e} \, + \text{c} \, \text{f}}{f}}} \, \sqrt{\left(f + \frac{\text{d} \, \text{e} \, - \text{c} \, \text{f}}{c + \text{d} \, \text{x}}\right) \left(h + \frac{\text{d} \, \text{g} \, - \text{c} \, \text{h}}{c + \text{d} \, \text{x}}\right)}\right) - \\ & \left(23 \, \text{i} \, \, \text{b}^2 \, \text{C} \, \, \text{d}^4 \, \, \text{e}^2 \, \, \text{f}^2 \, \, \text{g}^2 \, \, \text{h}^2 \, \sqrt{1 - \frac{-\text{d} \, \text{e} \, + \text{c} \, \text{f}}{f}}} \, \sqrt{1 - \frac{-\text{d} \, \text{g} \, + \text{c} \, \text{h}}{h}}} \, \sqrt{1 - \frac{-\text{d} \, \text{g} \, + \text{c} \, \text{h}}{h}} \right) \right) - \\ & \left(\sqrt{-\frac{-\text{d} \, \text{e} \, + \text{c} \, \text{f}}{f}} \, + \frac{\text{d} \, \text{e} \, - \text{c} \, \text{f}}{c + \text{d} \, \text{d}} \, \right) \left(h + \frac{\text{d} \, \text{g} \, - \text{c} \, \text{h}}{c + \text{d} \, \text{d}} \, \right) \right) \right) \right) \right) \right)$$

$$\label{eq:final_continuous_con$$

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

$$\label{eq:final_continuous_con$$

$$\left(\sqrt{-\frac{-\,d\,\,e\,+\,c\,\,f}{f}}\,\,\sqrt{\,\left(f+\,\frac{d\,\,e\,-\,c\,\,f}{c\,+\,d\,\,x}\,\right)\,\,\left(h\,+\,\frac{d\,\,g\,-\,c\,\,h}{c\,+\,d\,\,x}\,\right)}\,\,\right]\,+$$

$$\label{eq:final_continuous_con$$

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

$$\begin{split} & \text{EllipticF} \big[\text{i} \, \text{ArcSinh} \big[\frac{\sqrt{-\frac{-de+cf}{f}}}{\sqrt{c+dx}} \big], \, \frac{f \left(-d\, g+c\, h \right)}{\left(-d\, e+c\, f \right)\, h} \big] \bigg| \\ & \left(\sqrt{-\frac{-d\, e+c\, f}{f}} \, \sqrt{\left(f+\frac{d\, e-c\, f}{c+d\, x} \right) \left(h+\frac{d\, g-c\, h}{c+d\, x} \right)} \right. - \\ & \left. \left(\sqrt{-\frac{-d\, e+c\, f}{f}} \, \sqrt{1-\frac{-d\, e+c\, f}{f \left(c+d\, x \right)}} \, \sqrt{1-\frac{-d\, g+c\, h}{h \left(c+d\, x \right)}} \right) - \\ & \left. \left(\sqrt{-\frac{-d\, e+c\, f}{f}} \, \sqrt{\left(f+\frac{d\, e-c\, f}{c+d\, x} \right) \left(h+\frac{d\, g-c\, h}{c+d\, x} \right)} \right. \right| \\ & \left. \sqrt{-\frac{-d\, e+c\, f}{f}} \, \sqrt{\left(f+\frac{d\, e-c\, f}{c+d\, x} \right) \left(h+\frac{d\, g-c\, h}{c+d\, x} \right)} \right. - \\ & \left. \left(\sqrt{-\frac{-d\, e+c\, f}{f}} \, \sqrt{1-\frac{-d\, e+c\, f}{f \left(c+d\, x \right)}} \, \sqrt{1-\frac{-d\, g+c\, h}{h \left(c+d\, x \right)}} \right. \right| \\ & \left. \sqrt{-\frac{-d\, e+c\, f}{f}} \, \sqrt{\left(f+\frac{d\, e-c\, f}{c+d\, x} \right) \left(h+\frac{d\, g-c\, h}{c+d\, x} \right)} \right. \right| \\ & \left. \left(\sqrt{-\frac{-d\, e+c\, f}{f}} \, \sqrt{\left(f+\frac{d\, e-c\, f}{c+d\, x} \right) \left(h+\frac{d\, g-c\, h}{c+d\, x} \right)} \right. \right| \\ & \left. \left(\sqrt{-\frac{-d\, e+c\, f}{f}} \, \sqrt{\left(f+\frac{d\, e-c\, f}{c+d\, x} \right) \left(h+\frac{d\, g-c\, h}{c+d\, x} \right)} \right. \right| \\ & \left. \left(\sqrt{-\frac{-d\, e+c\, f}{f}} \, \sqrt{\left(f+\frac{d\, e-c\, f}{c+d\, x} \right) \left(h+\frac{d\, g-c\, h}{c+d\, x} \right)} \right. \right| \\ & \left. \left(\sqrt{-\frac{-d\, e+c\, f}{f}} \, \sqrt{\left(f+\frac{d\, e-c\, f}{c+d\, x} \right) \left(h+\frac{d\, g-c\, h}{c+d\, x} \right)} \right. \right. \right| \\ & \left. \left(\sqrt{-\frac{-d\, e+c\, f}{f}} \, \sqrt{\left(-\frac{d\, e+c\, f}{c+d\, x} \right) \left(h+\frac{d\, g-c\, h}{c+c\, f} \right)} \right. \right| \\ & \left. \sqrt{-\frac{-d\, e+c\, f}{f}} \, \sqrt{\left(-\frac{d\, e+c\, f}{c+d\, x} \right) \left(h+\frac{d\, g-c\, h}{c+c\, f} \right)} \right. \right| \\ & \left. \sqrt{-\frac{-d\, e+c\, f}{f}} \, \sqrt{\left(-\frac{d\, e+c\, f}{c+d\, x} \right) \left(h+\frac{d\, g-c\, h}{c+c\, f} \right)} \right. \right| \\ & \left. \sqrt{-\frac{-d\, e+c\, f}{f}} \, \sqrt{\left(-\frac{d\, e+c\, f}{c+d\, x} \right) \left(-\frac{d\, e+c\, f}{c+d\, x} \right)} \right. \right| \\ & \left. \sqrt{-\frac{-d\, e+c\, f}{f}} \, \sqrt{\left(-\frac{d\, e+c\, f}{c+d\, x} \right) \left(-\frac{d\, e+c\, f}{c+d\, x} \right)} \right. \right| \\ & \left. \sqrt{-\frac{-d\, e+c\, f}{f}} \, \sqrt{\left(-\frac{d\, e+c\, f}{c+d\, x} \right)} \right. \right| \\ & \left. \sqrt{-\frac{d\, e+c\, f}{f}} \, \sqrt{\left(-\frac{d\, e+c\, f}{c+d\, x} \right)} \right. \right| \\ & \left. \sqrt{-\frac{d\, e+c\, f}{f}} \, \sqrt{\left(-\frac{d\, e+c\, f}{c+d\, x} \right)} \right. \right| \\ & \left. \sqrt{-\frac{d\, e+c\, f}{f}} \, \sqrt{\left(-\frac{d\, e+c\, f}{f} \right)} \right. \right| \\ & \left. \sqrt{-\frac{d\, e+c\, f}{f}} \, \sqrt{\left(-\frac{d\, e+c\, f}{f} \right)} \right. \right| \\ & \left. \sqrt{-\frac{d\, e+c\, f}{f}} \, \sqrt{\left(-\frac{d\, e+c\, f}{f} \right)} \right. \right| \\ & \left. \sqrt{-\frac{d\, e+c\, f}{f}} \, \sqrt{\left(-\frac{d\, e+c$$

$$\label{eq:final_continuous_con$$

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

$$\label{eq:final_continuous_con$$

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

$$\label{eq:final_continuous_con$$

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

$$\begin{split} & \text{EllipticF} \left[\text{i} \, \text{ArcSinh} \left[\frac{\sqrt{-\frac{-de+cf}{f}}}{\sqrt{c+dx}} \right], \, \frac{f \left(-dg+ch \right)}{\left(-de+cf \right) h} \right] \right] \\ & \left(\sqrt{-\frac{-de+cf}{f}} \, \sqrt{\left(f + \frac{de-cf}{c+dx} \right) \left(h + \frac{dg-ch}{c+dx} \right)} \right) - \\ & \left(35 \, \text{i} \, Ab^2 \, d^4 \, ef^3 \, gh^3 \, \sqrt{1 - \frac{-de+cf}{f \left(c+dx \right)}} \, \sqrt{1 - \frac{-dg+ch}{h \left(c+dx \right)}} \right) \\ & \text{EllipticF} \left[\text{i} \, \text{ArcSinh} \left[\frac{\sqrt{-\frac{-de+cf}{f}}}{\sqrt{c+dx}} \right], \, \frac{f \left(-dg+ch \right)}{\left(-de+cf \right) h} \right] \right] \\ & \left(\sqrt{-\frac{-de+cf}{f}} \, \sqrt{\left(f + \frac{de-cf}{c+dx} \right) \left(h + \frac{dg-ch}{c+dx} \right)} \right) - \\ & 35 \, \text{i} \, a^2 \, C \, d^4 \, ef^3 \, gh^3 \, \sqrt{1 - \frac{-de+cf}{f \left(c+dx \right)}} \, \sqrt{1 - \frac{-dg+ch}{h \left(c+dx \right)}} \right] \\ & \left(\sqrt{-\frac{-de+cf}{f}} \, \sqrt{\left(f + \frac{de-cf}{c+dx} \right) \left(h + \frac{dg-ch}{c+dx} \right)} \right) + \\ & \left(\sqrt{-\frac{-de+cf}{f}} \, \sqrt{\left(f + \frac{de-cf}{c+dx} \right) \left(h + \frac{dg-ch}{c+dx} \right)} \right) + \\ & \left(16 \, \text{i} \, b^2 \, c^3 \, C \, df^4 \, gh^3 \, \sqrt{1 - \frac{-de+cf}{f \left(c+dx \right)}} \, \sqrt{1 - \frac{-dg+ch}{h \left(c+dx \right)}} \right) + \\ & \left(16 \, \text{i} \, b^2 \, c^3 \, C \, df^4 \, gh^3 \, \sqrt{1 - \frac{-de+cf}{f \left(c+dx \right)}} \, \sqrt{1 - \frac{-dg+ch}{h \left(c+dx \right)}} \right) \right) + \\ & \left(16 \, \text{i} \, b^2 \, c^3 \, C \, df^4 \, gh^3 \, \sqrt{1 - \frac{-de+cf}{f \left(c+dx \right)}} \, \sqrt{1 - \frac{-dg+ch}{h \left(c+dx \right)}} \right) \right) + \\ & \left(16 \, \text{i} \, b^2 \, c^3 \, C \, df^4 \, gh^3 \, \sqrt{1 - \frac{-de+cf}{f \left(c+dx \right)}} \, \sqrt{1 - \frac{-dg+ch}{h \left(c+dx \right)}} \right) \right) + \\ & \left(16 \, \text{i} \, b^2 \, c^3 \, C \, df^4 \, gh^3 \, \sqrt{1 - \frac{-de+cf}{f \left(c+dx \right)}} \, \sqrt{1 - \frac{-dg+ch}{h \left(c+dx \right)}} \right) \right) + \\ & \left(16 \, \text{i} \, b^2 \, c^3 \, C \, df^4 \, gh^3 \, \sqrt{1 - \frac{-de+cf}{f \left(c+dx \right)}} \, \sqrt{1 - \frac{-dg+ch}{h \left(c+dx \right)}} \right) \right) + \\ & \left(16 \, \text{i} \, b^2 \, c^3 \, C \, df^4 \, gh^3 \, \sqrt{1 - \frac{-de+cf}{f \left(c+dx \right)}} \, \sqrt{1 - \frac{-dg+ch}{h \left(c+dx \right)}} \right) \right) + \\ & \left(16 \, \text{i} \, b^2 \, C \, df^4 \, gh^3 \, \sqrt{1 - \frac{-de+cf}{h \left(c+dx \right)}} \right) \right) + \\ & \left(16 \, \text{i} \, b^2 \, C \, df^4 \, gh^3 \, \sqrt{1 - \frac{-de+cf}{h \left(c+dx \right)}} \right) \right) + \\ & \left(16 \, \text{i} \, b^2 \, C \, df^4 \, gh^3 \, \sqrt{1 - \frac{-de+cf}{h \left(c+dx \right)}} \right) \right) + \\ & \left(16 \, \text{i} \, b^2 \, C \, df^4 \, gh^3 \, \sqrt{1 - \frac{-de+cf}{h \left(c+dx \right)}} \right) \right) \right) + \\ & \left(16 \, \text{i} \, b^2 \, C \, df^4 \, gh^3 \, \sqrt{1 - \frac{-de+cf}{h \left(c+dx \right)}} \right$$

$$\label{eq:final_continuous_con$$

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

$$\label{eq:final_continuous_con$$

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

$$\label{eq:final_continuous_con$$

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

$$\begin{split} & \text{EllipticF} \big[\text{i} \, \text{ArcSinh} \big[\frac{\sqrt{\frac{-\text{de+cf}}{f}}}{\sqrt{c+dx}} \big], \, \frac{f \left(-\text{d}\, g + c\, h \right)}{\left(-\text{d}\, e + c\, f \right)\, h} \big] \bigg] \\ & \left(\sqrt{-\frac{-\text{d}\, e + c\, f}{f}} \, \sqrt{\left(f + \frac{\text{d}\, e - c\, f}{c+d\, x} \right) \left(h + \frac{\text{d}\, g - c\, h}{c+d\, x} \right)} \right) + \\ & 24\, \text{i} \, b^2 \, c\, C\, d^3 \, e^3 \, f\, h^4 \, \sqrt{1 - \frac{-\text{d}\, e + c\, f}{f \left(c + d\, x \right)}} \, \sqrt{1 - \frac{-\text{d}\, g + c\, h}{h \left(c + d\, x \right)}} \\ & \text{EllipticF} \big[\text{i} \, \text{ArcSinh} \big[\frac{\sqrt{-\frac{-\text{d}\, e + c\, f}{f}}}{\sqrt{c+d\, x}} \big], \, \frac{f \left(-\text{d}\, g + c\, h \right)}{\left(-\text{d}\, e + c\, f \right)\, h} \big] \bigg) \\ & \left(\sqrt{-\frac{-\text{d}\, e + c\, f}{f}} \, \sqrt{\left(f + \frac{\text{d}\, e - c\, f}{c+d\, x} \right) \left(h + \frac{\text{d}\, g - c\, h}{h \left(c + d\, x \right)}} \right) + \\ & 17\, \text{i} \, b^2 \, c^2 \, C\, d^2 \, e^2 \, f^2 \, h^4 \, \sqrt{1 - \frac{-\text{d}\, e + c\, f}{f \left(c + d\, x \right)}} \, \sqrt{1 - \frac{-\text{d}\, g + c\, h}{h \left(c + d\, x \right)}} \right] \\ & \text{EllipticF} \big[\text{i} \, \text{ArcSinh} \big[\frac{\sqrt{-\frac{-\text{d}\, e + c\, f}{f}}}}{\sqrt{c+d\, x}} \big], \, \frac{f \left(-\text{d}\, g + c\, h \right)}{\left(-\text{d}\, e + c\, f \right)\, h} \big] \bigg] \\ & \left(\sqrt{-\frac{-\text{d}\, e + c\, f}{f}} \, \sqrt{\left(f + \frac{\text{d}\, e - c\, f}{c+d\, x} \right) \left(h + \frac{\text{d}\, g - c\, h}{c+d\, x} \right)} \right) - \\ & 56\, \text{i} \, \text{a} \, b \, c \, C\, d^3 \, e^2 \, f^2 \, h^4 \, \sqrt{1 - \frac{-\text{d}\, e + c\, f}{f \left(c + d\, x \right)}} \, \sqrt{1 - \frac{-\text{d}\, g + c\, h}{h \left(c + d\, x \right)}} \right) \right] \end{aligned}$$

$$\label{eq:final_continuous_con$$

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

$$\label{eq:final_continuous_con$$

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

$$\label{eq:final_continuous_con$$

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

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

$$\label{eq:energy_energy_energy} \text{EllipticF} \left[\text{i ArcSinh} \left[\frac{\sqrt{-\frac{-d\,e_{+}c\,f}{f}}}{\sqrt{c_{\,+}\,d\,x_{\,}}} \right] \text{, } \frac{f\left(-d\,g_{\,+}\,c\,h \right)}{\left(-d\,e_{\,+}\,c\,f \right)\,h} \right] \right]$$

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

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

$$\label{eq:final_continuous_con$$

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

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

Problem 27: Result unnecessarily involves complex numbers and more than twice size of optimal antiderivative.

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

Optimal (type 4, 611 leaves, 8 steps):

Result (type 4, 8828 leaves)

$$\sqrt{c + d \, x} \, \sqrt{e + f \, x} \, \left(\frac{2 \, C \, \left(-4 \, b \, d \, f \, g - 4 \, b \, d \, e \, h - 4 \, b \, c \, f \, h + 5 \, a \, d \, f \, h \right)}{15 \, d^2 \, f^2 \, h^2} + \frac{2 \, b \, C \, x}{5 \, d \, f \, h} \right) \, \sqrt{g + h \, x} \, - \\ \frac{1}{15 \, d^4 \, f^2 \, h^2} \, 2 \, \left(\left(-8 \, b \, C \, d^2 \, f^2 \, g^2 - 7 \, b \, C \, d^2 \, e \, f \, g \, h - 7 \, b \, c \, C \, d \, f^2 \, g \, h + 10 \, a \, C \, d^2 \, f^2 \, g \, h - 8 \, b \, C \, d^2 \, e^2 \, h^2 - 15 \, A \, b \, d^2 \, f^2 \, g \, h - 8 \, b \, C \, d^2 \, e^2 \, h^2 - 15 \, A \, b \, d^2 \, f^2 \, h^2 \right) \right) \\ \left(c + d \, x \right)^{3/2} \, \left(f + \frac{d \, e}{c + d \, x} - \frac{c \, f}{c + d \, x} \right) \, \left(h + \frac{d \, g}{c + d \, x} - \frac{c \, h}{c + d \, x} \right) \right) \right/ \\ \left(f \, h \, \sqrt{e + \frac{\left(c + d \, x \right) \, \left(f - \frac{c \, f}{c + d \, x} \right)}{d}} \, \sqrt{g + \frac{\left(c + d \, x \right) \, \left(h - \frac{c \, h}{c + d \, x} \right)}{d}} \, \right) + \frac{10 \, a \, C \, d^2 \, f^2 \, g^2 - 7 \, b \, C \, d^2 \, e^2 \, h^2 - 15 \, A \, b \, d^2 \, f^2 \, h^2 \right)}{d} \right) + \frac{10 \, a \, C \, d^2 \, f^2 \, g^2 - 7 \, b \, C \, d^2 \, e^2 \, f^2 \, g^2 - 7 \, b \, C \, d^2 \, e^2 \, f^2 \, g^2 - 7 \, b \, C \, d^2 \, e^2 \, f^2 \, g^2 - 7 \, b \, C \, d^2 \, e^2 \, f^2 \, g^2 - 7 \, b \, C \, d^2 \, e^2 \, f^2 \, g^2 - 7 \, b \, C \, d^2 \, e^2 \, f^2 \, g^2 - 7 \, b \, C \, d^2 \, e^2 \, f^2 \, g^2 - 7 \, b \, C \, d^2 \, e^2 \, f^2 \, g^2 - 7 \, b \, C \, d^2 \, e^2 \, f^2 \, g^2 - 7 \, b \, C \, d^2 \, e^2 \, f^2 \, g^2 - 7 \, b \, C \, d^2 \, e^2 \, f^2 \, g^2 - 7 \, b \, C \, d^2 \, e^2 \, f^2 \, g^2 - 7 \, b \, C \, d^2 \, e^2 \, f^2 \, g^2 - 7 \, b \, C \, d^2 \, e^2 \, f^2 \, g^2 - 7 \, b \, C \, d^2 \, e^2 \, f^2 \, g^2 - 7 \, b \, C \, d^2 \, e^2 \, f^2 \, g^2 - 7 \, b \, C \, d^2 \, e^2 \, f^2 \, g^2 - 7 \, b \, C \, d^2 \, g^2 \, f^2 \, g^2 - 7 \, b \, C \, d^2 \, g^2 \, f^2 \, f^2 \, g^2 \, f^2 \, f^2 \, g^2 \, f^2 \, f^2 \, g^2 \, f^2 \,$$

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

$$\left(c + dx \right) \sqrt{ \left(f + \frac{de}{c + dx} - \frac{cf}{c + dx} \right) \left(h + \frac{dg}{c + dx} - \frac{ch}{c + dx} \right) }$$

$$\left(\left[8 \text{ i } b \text{ C } d^4 e f^2 g^3 h \sqrt{ 1 - \frac{-de + cf}{f \left(c + dx \right)}} \sqrt{ 1 - \frac{-dg + ch}{h \left(c + dx \right)}} \right] e \text{ EllipticE} \left[\text{ i } \text{ ArcSinh} \left[\frac{\sqrt{-\frac{-de + cf}{f}}}{\sqrt{c + dx}} \right], \frac{f \left(-dg + ch \right)}{\left(-de + cf \right) h} \right] \right]$$

$$\left(\sqrt{-\frac{-de + cf}{f}} \left(-dg + ch \right) \sqrt{ \left(f + \frac{de - cf}{c + dx} \right) \left(h + \frac{dg - ch}{c + dx} \right)} - \left[8 \text{ i } b \text{ c C } d^3 \right] \right)$$

$$\left(\sqrt{-\frac{-de + cf}{f}} \left(-dg + ch \right) \sqrt{ \left(f + \frac{de - cf}{c + dx} \right) \left(h + \frac{dg - ch}{c + dx} \right)} - \left[8 \text{ i } b \text{ c C } d^3 \right] \right)$$

$$\left(\sqrt{-\frac{-de + cf}{f}} \left(-dg + ch \right) - \text{ EllipticF} \left[\text{ i } \text{ ArcSinh} \left(\frac{\sqrt{-\frac{-de + cf}{f}}}{\sqrt{c + dx}} \right), \frac{f \left(-dg + ch \right)}{\left(-de + cf \right) h} \right] \right]$$

$$\left(\sqrt{-\frac{-de + cf}{f}} \left(-dg + ch \right) \sqrt{ \left(f + \frac{de - cf}{c + dx} \right) \left(h + \frac{dg - ch}{c + dx} \right)} + \frac{7 \text{ i } b \text{ C } d^4 \text{ e}^2}{\sqrt{c + dx}} \right]$$

$$\left(f + \frac{de + cf}{f} \right) \left(-de + cf \right) h \right] - \text{ EllipticF} \left[\text{ i } \text{ ArcSinh} \left(\frac{\sqrt{-\frac{-de + cf}{f}}}{\sqrt{c + dx}} \right), \frac{f \left(-dg + ch \right)}{\sqrt{c + dx}} \right] \right)$$

$$\left(-\frac{de + cf}{f} \right) \left(-de + cf \right) h \right] - \text{ EllipticF} \left[\text{ i } \text{ ArcSinh} \left(\frac{\sqrt{-\frac{-de + cf}{f}}}{\sqrt{c + dx}} \right), \frac{f \left(-dg + ch \right)}{\sqrt{c + dx}} \right] \right)$$

$$\left[\sqrt{-\frac{-d\,e\,+\,c\,f}{f}} \; \left(-d\,g\,+\,c\,h \right) \; \sqrt{\left(f\,+\,\frac{d\,e\,-\,c\,f}{c\,+\,d\,x} \right) \left(h\,+\,\frac{d\,g\,-\,c\,h}{c\,+\,d\,x} \right)} \; \right] = \left[8\,i\,b\,c\,C\,d^3 \right]$$

$$e\,f^2\,g^2\,h^2\,\sqrt{1-\frac{-d\,e\,+\,c\,f}{f} \left(c\,+\,d\,x \right)} \; \sqrt{1-\frac{-d\,g\,+\,c\,h}{h} \left(c\,+\,d\,x \right)} \; \left[EllipticE\left[i\,ArcSinh\left[\frac{\sqrt{-\frac{-d\,e\,+\,c\,f}{f}}}{\sqrt{c\,+\,d\,x}} \right] , \frac{f\left(-d\,g\,+\,c\,h \right)}{\sqrt{-d\,e\,+\,c\,f} \; h} \right] \right] + \left[\sqrt{-\frac{-d\,e\,+\,c\,f}{f}} \; \left(-d\,g\,+\,c\,h \right) \; \sqrt{\left(f\,+\,\frac{d\,e\,-\,c\,f}{c\,+\,d\,x} \right) \left(h\,+\,\frac{d\,g\,-\,c\,h}{c\,+\,d\,x} \right)} \right] - \left[10\,i\,a\,C\,d^4\,e\,f^2\,g^2\,h^2\,\sqrt{1-\frac{-d\,e\,+\,c\,f}{f} \left(c\,+\,d\,x \right)} \; \sqrt{1-\frac{-d\,g\,+\,c\,h}{h} \left(c\,+\,d\,x \right)} \right] + \left[EllipticE\left[i\,ArcSinh\left[\frac{\sqrt{-\frac{-d\,e\,+\,c\,f}{f}}}{\sqrt{c\,+\,d\,x}} \right] , \frac{f\left(-d\,g\,+\,c\,h \right)}{\left(-d\,e\,+\,c\,f \right) \; h} \right] - \left[EllipticF\left[i\,ArcSinh\left[\frac{\sqrt{-\frac{-d\,e\,+\,c\,f}{f}}}{\sqrt{c\,+\,d\,x}} \right] , \frac{f\left(-d\,g\,+\,c\,h \right)}{\left(-d\,e\,+\,c\,f \right) \; h} \right] \right] \right] \right] + \left[\sqrt{-\frac{-d\,e\,+\,c\,f}{f}} \; \left(-d\,g\,+\,c\,h \right) \; \sqrt{\left(f\,+\,\frac{d\,e\,-\,c\,f}{c\,+\,d\,x} \right) \; \left(h\,+\,\frac{d\,g\,-\,c\,h}{c\,+\,d\,x} \right)} \right] + \left[i\,b\,c^2\,C\,d^2\,f^3\,g^2\,h^2\,\sqrt{1-\frac{-d\,e\,+\,c\,f}{f} \left(c\,+\,d\,x \right)} \; \sqrt{1-\frac{-d\,g\,+\,c\,h}{h} \left(c\,+\,d\,x \right)} \right] + \left[i\,b\,c^2\,C\,d^2\,f^3\,g^2\,h^2\,\sqrt{1-\frac{-d\,e\,+\,c\,f}{f} \left(c\,+\,d\,x \right)} \; \sqrt{1-\frac{-d\,g\,+\,c\,h}{h} \left(c\,+\,d\,x \right)} \right] + \left[i\,b\,c^2\,C\,d^2\,f^3\,g^2\,h^2\,\sqrt{1-\frac{-d\,e\,+\,c\,f}{f} \left(c\,+\,d\,x \right)} \; \sqrt{1-\frac{-d\,g\,+\,c\,h}{h} \left(c\,+\,d\,x \right)} \right] + \left[i\,b\,c^2\,C\,d^2\,f^3\,g^2\,h^2\,\sqrt{1-\frac{-d\,e\,-\,c\,f}{f} \left(c\,+\,d\,x \right)} \; \sqrt{1-\frac{-d\,g\,+\,c\,h}{h} \left(c\,+\,d\,x \right)} \right] + \left[i\,b\,c^2\,C\,d^2\,f^3\,g^2\,h^2\,\sqrt{1-\frac{-d\,e\,-\,c\,f}{f} \left(c\,+\,d\,x \right)} \; \sqrt{1-\frac{-d\,g\,+\,c\,h}{h} \left(c\,+\,d\,x \right)} \right] + \left[i\,b\,c^2\,C\,d^2\,f^3\,g^2\,h^2\,\sqrt{1-\frac{-d\,e\,-\,c\,f}{f} \left(c\,+\,d\,x \right)} \; \sqrt{1-\frac{-d\,g\,+\,c\,h}{h} \left(c\,+\,d\,x \right)} \right] + \left[i\,b\,c^2\,C\,d^2\,f^3\,g^2\,h^2\,\sqrt{1-\frac{-d\,e\,-\,c\,f}{f} \left(c\,+\,d\,x \right)} \; \sqrt{1-\frac{-d\,g\,+\,c\,h}{h} \left(c\,+\,d\,x \right)} \right] + \left[i\,b\,c^2\,C\,d^2\,f^3\,g^2\,h^2\,\sqrt{1-\frac{-d\,e\,-\,c\,f}{f} \left(c\,+\,d\,x \right)} \; \sqrt{1-\frac{-d\,e\,-\,c\,f}{h} \left(c\,+\,d\,x \right)} \right] + \left[i\,b\,c^2\,C\,d^2\,f^3\,g^2\,h^2\,\sqrt{1-\frac{-d\,e\,-\,c\,f}{f} \left(c\,+\,d\,x \right)} \; \sqrt{1-\frac{-d\,e\,-\,c\,f}{h} \left(c\,+\,d\,x \right)} \right] + \left[i\,b\,c^2\,C\,d^2\,f^3\,g^2\,h^2\,\sqrt{1-\frac{-d\,e\,-\,c\,f}{f} \left(c\,+\,d\,x \right)} \; \sqrt{1-\frac{-d\,e\,-\,c\,f}{h} \left(c\,+\,d\,x \right)} \right] + \left[i\,b\,c^2\,C\,d^2\,f^3\,g^2\,h^2$$

$$\left[\text{EllipticE} \left[i \, \text{ArcSinh} \left[\frac{\sqrt{-\frac{-de+cf}{f}}}{\sqrt{c+d\,x}} \right], \frac{f \left(-d\,g+c\,h \right)}{\left(-d\,e+c\,f \right)\,h} \right] - \\ \\ \text{EllipticF} \left[i \, \text{ArcSinh} \left[\frac{\sqrt{-\frac{-de+cf}{f}}}{\sqrt{c+d\,x}} \right], \frac{f \left(-d\,g+c\,h \right)}{\left(-d\,e+c\,f \right)\,h} \right] \right] \right]$$

$$\left[\sqrt{-\frac{-d\,e+c\,f}{f}} \left(-d\,g+c\,h \right) \, \sqrt{\left(f+\frac{d\,e-c\,f}{c+d\,x} \right) \left(h+\frac{d\,g-c\,h}{c+d\,x} \right)} \right] + \\ \\ \left[10\,i\,a\,c\,C\,d^3\,f^3\,g^2\,h^2 \, \sqrt{1-\frac{-d\,e+c\,f}{f}\,\left(c+d\,x \right)} \, \sqrt{1-\frac{-d\,g+c\,h}{h}\,\left(c+d\,x \right)} \right] \right]$$

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

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

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

$$8 \, \dot{\mathbb{1}} \, \, b \, c \, C \, d^3 \, e^2 \, f \, g \, h^3 \, \sqrt{1 - \frac{-d \, e + c \, f}{f \, \left(c + d \, x\right)}} \, \, \sqrt{1 - \frac{-d \, g + c \, h}{h \, \left(c + d \, x\right)}}$$

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

$$\label{eq:final_continuous_con$$

$$\left(\sqrt{-\frac{-d\,e + c\,f}{f}} \ \left(-d\,g + c\,h \right) \ \sqrt{\left(f + \frac{d\,e - c\,f}{c + d\,x} \right) \ \left(h + \frac{d\,g - c\,h}{c + d\,x} \right)} \ \right) - \left(-\frac{d\,g + c\,f}{f} \right) \left(-\frac{d\,g + c\,h}{f} \right) = 0$$

$$\left[\text{EllipticE} \left[\, \dot{\mathbb{1}} \, \operatorname{ArcSinh} \left[\, \frac{\sqrt{- \, \frac{-d \, e + c \, f}{f}}}{\sqrt{c + d \, x}} \, \right] \, , \, \, \frac{f \, \left(-d \, g + c \, h \right)}{\left(-d \, e + c \, f \right) \, h} \, \right] \, - \right] \, .$$

$$\label{eq:final_continuous_con$$

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

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

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

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

$$\left[\sqrt{-\frac{-d \, e + c \, f}{f}} \, \left(-d \, g + c \, h\right) \sqrt{\left(f + \frac{d \, e - c \, f}{c + d \, x}\right) \left(h + \frac{d \, g - c \, h}{c + d \, x}\right)} \right] +$$

$$\left[10 \, i \, a \, c \, C \, d^3 \, e \, f^2 \, g \, h^3 \sqrt{1 - \frac{-d \, e + c \, f}{f \, \left(c + d \, x\right)}} \, \sqrt{1 - \frac{-d \, g + c \, h}{h \, \left(c + d \, x\right)}} \right]$$

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

$$\left[\sqrt{-\frac{-d \, e + c \, f}{f}} \, \left(-d \, g + c \, h\right) \sqrt{\left(f + \frac{d \, e - c \, f}{c + d \, x}\right) \left(h + \frac{d \, g - c \, h}{c + d \, x}\right)} \right] +$$

$$\left[15 \, i \, A \, b \, d^4 \, e \, f^2 \, g \, h^3 \sqrt{1 - \frac{-d \, e + c \, f}{f \, \left(c + d \, x\right)}} \, \sqrt{1 - \frac{-d \, g + c \, h}{h \, \left(c + d \, x\right)}} \right]$$

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

$$\left[\text{EllipticF} \left[i \, \text{ArcSinh} \left[\frac{\sqrt{-\frac{-de+cf}{f}}}{\sqrt{c+d\,x}} \right], \, \frac{f\left(-d\,g+c\,h\right)}{\left(-d\,e+c\,f\right)\,h} \right] \right] \right]$$

$$\left[\sqrt{-\frac{-de+c\,f}{f}} \, \left(-d\,g+c\,h \right) \, \sqrt{\left(f+\frac{d\,e-c\,f}{c+d\,x}\right) \, \left(h+\frac{d\,g-c\,h}{c+d\,x}\right)} \right] -$$

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

$$\left[\sqrt{-\frac{-d\,e+c\,f}{f}} \, \left(-d\,g+c\,h \right) \, \sqrt{\left(f+\frac{d\,e-c\,f}{c+d\,x}\right) \, \left(h+\frac{d\,g-c\,h}{c+d\,x}\right)} \, - \right.$$

$$\left[15\,i\,A\,b\,c\,d^3\,f^3\,g\,h^3 \, \sqrt{1-\frac{-d\,e+c\,f}{f\left(c+d\,x\right)}} \, \sqrt{1-\frac{-d\,g+c\,h}{h\left(c+d\,x\right)}} \right]$$

$$\left[\text{EllipticE} \left[\, \dot{\mathbb{1}} \, \operatorname{ArcSinh} \left[\, \frac{\sqrt{-\, \frac{-d \, e + c \, f}{f}}}{\sqrt{c + d \, x}} \, \right] \, , \, \, \frac{f \, \left(- d \, g + c \, h \right)}{\left(- d \, e + c \, f \right) \, h} \, \right] \, - \right.$$

$$\label{eq:energy_energy} \text{EllipticF}\left[\, \text{i} \, \operatorname{ArcSinh}\left[\, \frac{\sqrt{-\, \frac{-d\, e + c\, f}{f}}}{\sqrt{\, c + d\, x}}\, \right] \, , \, \, \frac{f\, \left(\, -d\, g + c\, h\right)}{\left(\, -d\, e + c\, f\right)\, h}\, \right] \, \right]$$

$$\left[\sqrt{-\frac{-de+cf}{f}} \left(-dg+ch \right) \sqrt{\left(f + \frac{de-cf}{c+dx} \right) \left(h + \frac{dg-ch}{c+dx} \right)} \right] - \left[8 \text{ ibc} \, C \, C \, d^3 \, e^3 \, h^4 \sqrt{1 - \frac{-de+cf}{f \left(c+dx \right)}} \sqrt{1 - \frac{-dg+ch}{h \left(c+dx \right)}} \right] + \left[\text{EllipticE} \left[\text{iArcSinh} \left[\frac{\sqrt{-\frac{-de+cf}{f}}}{\sqrt{c+dx}} \right] \right] + \left[\frac{f \left(-dg+ch \right)}{\left(-de+cf \right) h} \right] - \text{EllipticF} \left[\text{iArcSinh} \left[\frac{\sqrt{-\frac{-de+cf}{f}}}{\sqrt{c+dx}} \right] + \frac{f \left(-dg+ch \right)}{\left(-de+cf \right) h} \right] \right] \right]$$

$$\left[\sqrt{-\frac{-de+cf}{f}} \left(-dg+ch \right) \sqrt{\left(f + \frac{de-cf}{c+dx} \right) \left(h + \frac{dg-ch}{c+dx} \right)} + \left[\text{ibc}^2 \, C \, d^2 \, e^2 \, f \, h^4 \sqrt{1 - \frac{-de+cf}{f \left(c+dx \right)}} \right] , \frac{f \left(-dg+ch \right)}{\left(-de+cf \right) h} \right] - \left[\text{EllipticF} \left[\text{iArcSinh} \left[\frac{\sqrt{-\frac{-de+cf}{f}}}{\sqrt{c+dx}} \right] , \frac{f \left(-dg+ch \right)}{\left(-de+cf \right) h} \right] \right]$$

$$\left[\sqrt{-\frac{-de+cf}{f}} \left(-dg+ch \right) \sqrt{\left(f + \frac{de-cf}{c+dx} \right) \left(h + \frac{dg-ch}{c+dx} \right)} \right] + \left[10 \, \text{iacC} \, C \, d^3 \, e^2 \, f \, h^4 \sqrt{1 - \frac{-de+cf}{f \left(c+dx \right)}} \sqrt{1 - \frac{-dg+ch}{h \left(c+dx \right)}} \right] \right]$$

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

$$\label{eq:energy_energy_energy} \text{EllipticF}\left[\, \frac{\sqrt{-\, \frac{-d\, e + c\, f}{f}}}{\sqrt{\, c \, + \, d\, x}}\, \right] \text{, } \frac{f\, \left(\, -\, d\, g \, + \, c\, \, h\, \right)}{\left(\, -\, d\, e \, + \, c\, \, f\, \right)\, h}\, \right] \, \Bigg] \, /$$

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

$$\left[\text{ibc}^3 \, \text{Cdef}^2 \, \text{h}^4 \, \sqrt{1 - \frac{-\,\text{de+cf}}{f\left(c + \text{dx}\right)}} \, \, \sqrt{1 - \frac{-\,\text{dg+ch}}{h\left(c + \text{dx}\right)}} \, \, \left[\text{EllipticE} \left[\, \text{iArcSinh} \left[\, \frac{\sqrt{-\,\frac{-\,\text{de+cf}}{f}}}{\sqrt{c + \text{dx}}} \right] \, , \right] \right] \right] \, ,$$

$$\frac{\text{f}\left(-\text{d}\,\text{g}+\text{c}\,\text{h}\right)}{\left(-\text{d}\,\text{e}+\text{c}\,\text{f}\right)\,\text{h}}\big]-\text{EllipticF}\big[\,\text{i}\,\text{ArcSinh}\big[\,\frac{\sqrt{-\frac{-\text{d}\,\text{e}+\text{c}\,\text{f}}{\text{f}}}}{\sqrt{\,\text{c}+\text{d}\,\text{x}}}\big]\,\text{,}\,\,\frac{\text{f}\left(-\text{d}\,\text{g}+\text{c}\,\text{h}\right)}{\left(-\text{d}\,\text{e}+\text{c}\,\text{f}\right)\,\text{h}}\big]\,\bigg|\bigg|\bigg/$$

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

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

$$\left[\sqrt{-\frac{-de+cf}{f}} \left(-dg+ch \right) \sqrt{\left(f + \frac{de-cf}{c+dx} \right) \left(h + \frac{dg-ch}{c+dx} \right)} \right] + \\ 8 \text{ i } b c^4 C f^3 h^4 \sqrt{1 - \frac{-de+cf}{f}} \sqrt{1 - \frac{-dg+ch}{h} \left(c+dx \right)} \right] + \\ \frac{f \left(-dg+ch \right)}{\left(-de+cf \right) h} - \text{EllipticF} \left[\text{ i } \text{ArcSinh} \left[\frac{\sqrt{-\frac{-de+cf}{f}}}{f}}{\sqrt{c+dx}} \right], \frac{f \left(-dg+ch \right)}{\left(-de+cf \right) h} \right]$$

$$\left[\sqrt{-\frac{-de+cf}{f}} \left(-dg+ch \right) \sqrt{\left(f + \frac{de-cf}{c+dx} \right) \left(h + \frac{dg-ch}{c+dx} \right)} \right] - \\ \left[10 \text{ i } a c^3 C d f^3 h^4 \sqrt{1 - \frac{-de+cf}{f} \left(c+dx \right)} \sqrt{1 - \frac{-dg+ch}{h} \left(c+dx \right)} \right] - \\ \text{EllipticE} \left[\text{ i } \text{ArcSinh} \left[\frac{\sqrt{-\frac{-de+cf}{f}}}{f}}{\sqrt{c+dx}} \right], \frac{f \left(-dg+ch \right)}{\left(-de+cf \right) h} \right] - \\ \text{EllipticF} \left[\text{ i } \text{ArcSinh} \left[\frac{\sqrt{-\frac{-de+cf}{f}}}{f}}{\sqrt{c+dx}} \right], \frac{f \left(-dg+ch \right)}{\left(-de+cf \right) h} \right] \right]$$

$$\left[\sqrt{-\frac{-de+cf}{f}} \left(-dg+ch \right) \sqrt{\left(f + \frac{de-cf}{c+dx} \right) \left(h + \frac{dg-ch}{c+dx} \right)} \right] + \\ 15 \text{ i } \text{Ab } c^2 d^2 f^3 h^4 \sqrt{1 - \frac{-de+cf}{f} \left(c+dx \right)}} \sqrt{1 - \frac{-dg+ch}{h} \left(c+dx \right)} \right]$$

$$\begin{split} & \left[\text{EllipticE} \Big[i \, \text{ArcSinh} \Big[\frac{\sqrt{\frac{-de\cdot cf}{f}}}{\sqrt{c+dx}} \Big], \frac{f \left(-dg + ch \right)}{\left(-de + cf \right) h} \Big] - \\ & \left[\text{EllipticF} \Big[i \, \text{ArcSinh} \Big[\frac{\sqrt{\frac{-de\cdot cf}{f}}}{\sqrt{c+dx}} \Big], \frac{f \left(-dg + ch \right)}{\left(-de + cf \right) h} \Big] \right] \right] / \\ & \left[\sqrt{\frac{-de + cf}{f}} \left(-dg + ch \right) \sqrt{\left[f + \frac{de - cf}{c+dx} \right] \left(h + \frac{dg - ch}{c+dx} \right)} \right] - \\ & \left[4 \, i \, b \, C \, d^3 \, e \, f^2 \, g^2 \, h \sqrt{1 - \frac{-de + cf}{f}} \sqrt{1 - \frac{-dg + ch}{h} \left(c + dx \right)} \right] \right] / \\ & \left[\text{EllipticF} \Big[i \, \text{ArcSinh} \Big[\frac{\sqrt{\frac{-de\cdot cf}{f}}}{\sqrt{c+dx}} \Big], \frac{f \left(-dg + ch \right)}{\left(-de + cf \right) h} \Big] \right] / \\ & \left[\sqrt{\frac{-de + cf}{f}} \sqrt{\left[f + \frac{de - cf}{c+dx} \right] \left(h + \frac{dg - ch}{c+dx} \right)} \right] + \frac{4}{4} \, i \, b \, c \, C \, d^2 \, f^3 \, g^2 \, h \sqrt{1 - \frac{-de + cf}{f} \left(c + dx \right)} \right] / \\ & \left[\sqrt{\frac{-de + cf}{f}} \sqrt{\left[f + \frac{de - cf}{c+dx} \right] \left(h + \frac{dg - ch}{c+dx} \right)} \right] - \\ & \left[\sqrt{\frac{-de + cf}{f}} \sqrt{\left[f + \frac{de - cf}{c+dx} \right] \left(h + \frac{dg - ch}{c+dx} \right)} \right] - \\ & \left[4 \, i \, b \, C \, d^3 \, e^2 \, f \, g \, h^2 \sqrt{1 - \frac{-de + cf}{f} \left(c + dx \right)}} \sqrt{1 - \frac{-dg + ch}{h \left(c + dx \right)}} \right] - \\ & \left[4 \, i \, b \, C \, d^3 \, e^2 \, f \, g \, h^2 \sqrt{1 - \frac{-de + cf}{f \left(c + dx \right)}}} \sqrt{1 - \frac{-dg + ch}{h \left(c + dx \right)}} \right] - \\ & \left[4 \, i \, b \, C \, d^3 \, e^2 \, f \, g \, h^2 \sqrt{1 - \frac{-de + cf}{f \left(c + dx \right)}}} \sqrt{1 - \frac{-dg + ch}{h \left(c + dx \right)}} \right] - \\ & \left[4 \, i \, b \, C \, d^3 \, e^2 \, f \, g \, h^2 \sqrt{1 - \frac{-de + cf}{f \left(c + dx \right)}}} \sqrt{1 - \frac{-dg + ch}{h \left(c + dx \right)}} \right] - \\ & \left[4 \, i \, b \, C \, d^3 \, e^2 \, f \, g \, h^2 \sqrt{1 - \frac{-de + cf}{f \left(c + dx \right)}} \sqrt{1 - \frac{-dg + ch}{h \left(c + dx \right)}} \right] \right] + \\ & \left[4 \, i \, b \, C \, d^3 \, e^2 \, f \, g \, h^2 \sqrt{1 - \frac{-de + cf}{f \left(c + dx \right)}} \sqrt{1 - \frac{-dg + ch}{h \left(c + dx \right)}} \right] \right] + \\ & \left[4 \, i \, b \, C \, d^3 \, e^2 \, f \, g \, h^2 \sqrt{1 - \frac{-de + cf}{f \left(c + dx \right)}} \right] + \\ & \left[4 \, i \, b \, C \, d^3 \, e^2 \, f \, g \, h^2 \sqrt{1 - \frac{-de + cf}{f \left(c + dx \right)}} \right] \right] \right]$$

$$\begin{split} & \text{EllipticF} \big[\text{i} \, \text{ArcSinh} \big[\frac{\sqrt{-\frac{d \, \text{e} \, \text{c} \, \text{f}}{f}}}{\sqrt{c_+ \, \text{d} \, \text{x}}} \big], \, \frac{f \, \big(- d \, \text{g} \, + \text{c} \, \text{h} \big)}{\big(- d \, \text{e} \, + \text{c} \, \text{f} \, \big)} \, \bigg| \, \\ & \left[\sqrt{-\frac{-d \, \text{e} \, + \, \text{c} \, \text{f}}{f}} \, \sqrt{\left(f + \frac{d \, \text{e} \, - \, \text{c} \, \text{f}}{c_+ \, \text{d} \, \text{x}}} \right) \left(h + \frac{d \, \text{g} \, - \, \text{c} \, \text{h}}{c_+ \, \text{d} \, \text{x}}} \right) + \left[i \, \text{bcC} \, d^2 \, \text{e} \, f^2 \, \text{g} \, h^2 \, \sqrt{1 - \frac{-d \, \text{e} \, + \, \text{c} \, \text{f}}{f} \, \left(c_+ \, \text{d} \, \text{x}} \right)} \right] \right] \\ & \sqrt{1 - \frac{-d \, \text{g} \, + \, \text{c} \, \text{h}}{h \, \left(c_+ \, \text{d} \, \text{x}} \right)} \, \left[h + \frac{d \, \text{g} \, - \, \text{c} \, \text{h}}{c_+ \, \text{d} \, \text{x}} \right], \, \frac{f \, \left(-d \, \text{g} \, + \, \text{c} \, \text{h} \right)}{\left(-d \, \text{e} \, + \, \text{c} \, \text{f}} \right) \, h} \right] \right] \\ & \sqrt{1 - \frac{-d \, \text{e} \, + \, \text{c} \, f}{f} \, \left(f + \frac{d \, \text{e} \, - \, \text{c} \, f}{f \, \left(c_+ \, \text{d} \, \text{x}} \right)} \, \left[h + \frac{d \, \text{g} \, - \, \text{c} \, \text{h}}{h \, \left(c_+ \, \text{d} \, \text{x}} \right)} \right] \\ & \sqrt{1 - \frac{-d \, \text{e} \, + \, \text{c} \, f}{f} \, \left(f + \frac{d \, \text{e} \, - \, \text{c} \, f}{c_+ \, \text{d} \, \text{x}} \right) \left(h + \frac{d \, \text{g} \, - \, \text{c} \, h}{c_+ \, \text{d} \, \text{x}} \right)}{\sqrt{c_+ \, \text{d} \, \text{x}}} \, \right], \, \frac{f \, \left(-d \, \text{g} \, + \, \text{c} \, h}{f \, \left(c_+ \, \text{d} \, \text{x}} \right)} \\ & \sqrt{1 - \frac{-d \, \text{g} \, + \, \text{c} \, h}{h \, \left(c_+ \, \text{d} \, \text{x}} \right)} \, \left[h + \frac{d \, \text{g} \, - \, \text{c} \, h}{c_+ \, \text{d} \, \text{x}} \right) \right] \\ & \sqrt{1 - \frac{-d \, \text{g} \, + \, \text{c} \, h}{h \, \left(c_+ \, \text{d} \, \text{x}} \right)}} \, \left[h + \frac{d \, \text{g} \, - \, \text{c} \, h}{c_+ \, \text{d} \, \text{x}} \right) \right] \\ & \sqrt{1 - \frac{-d \, \text{g} \, + \, \text{c} \, h}{h \, \left(c_+ \, \text{d} \, \text{x}} \right)} \, \left[h + \frac{d \, \text{g} \, - \, \text{c} \, h}{c_+ \, \text{d} \, \text{x}} \right) \right] \\ & \sqrt{1 - \frac{-d \, \text{g} \, + \, \text{c} \, h}{h \, \left(c_+ \, \text{d} \, \text{x}} \right)}} \, \left[h + \frac{d \, \text{g} \, - \, \text{c} \, h}{c_+ \, \text{d} \, \text{x}} \right] \right] \\ & \sqrt{1 - \frac{-d \, \text{g} \, + \, \text{c} \, h}{h \, \left(c_+ \, \text{d} \, \text{x}} \right)}} \, \left[h + \frac{d \, \text{g} \, - \, \text{c} \, h}{c_+ \, \text{d} \, \text{x}} \right] \right] \\ & \sqrt{1 - \frac{-d \, \text{g} \, + \, \text{c} \, h}{h \, \left(c_+ \, \text{d} \, \text{x}} \right)}} \, \left[h + \frac{d \, \text{g} \, - \, \text{c} \, h}{c_+ \, \text{d} \, \text{x}} \right] \right] \\ & \sqrt{1 - \frac{-d \, \text{g} \, + \, \text{c} \, h}{h \, \left(c_+ \, \text{d} \, \text{x}} \right)}} \, \left[h + \frac{d \, \text{g} \, - \, \text{c} \, h}{c_+ \, \text{d} \, \text{x}} \right] \\ & \sqrt{$$

$$\label{eq:final_continuous_con$$

$$\sqrt{1-\frac{-\,d\,g+c\,h}{h\,\left(c+d\,x\right)}} \ \ \text{EllipticF}\left[\,\dot{\mathbb{1}}\,\,\text{ArcSinh}\left[\,\,\frac{\sqrt{-\,\frac{-d\,e+c\,f}{f}}}{\sqrt{\,c+d\,x}}\,\,\right]\,\text{,}\,\,\,\frac{f\,\left(-\,d\,g+c\,h\right)}{\left(-\,d\,e+c\,f\right)\,h}\,\right] \ / \\$$

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

$$\sqrt{1 - \frac{-\,d\,g + c\,h}{h\,\left(c + d\,x\right)}} \ \ \text{EllipticF}\left[\,\dot{\mathbb{1}}\,\,\text{ArcSinh}\left[\,\frac{\sqrt{-\,\frac{-d\,e + c\,f}{f}}}{\sqrt{c + d\,x}}\,\right]\,\text{,}\,\, \frac{f\,\left(-\,d\,g + c\,h\right)}{\left(-\,d\,e + c\,f\right)\,h}\,\right] \ \middle/$$

$$\left(\sqrt{-\frac{-de+cf}{f}} \ \sqrt{\left(f + \frac{de-cf}{c+dx}\right) \left(h + \frac{dg-ch}{c+dx}\right)} \right) + \left(8 i b c^3 C f^3 h^3 \sqrt{1 - \frac{-de+cf}{f} \left(c+dx\right)} \right)$$

$$\left(\sqrt{1 - \frac{-dg+ch}{h \left(c+dx\right)}} \ EllipticF \left[i ArcSinh \left[\frac{\sqrt{-\frac{-de+cf}{f}}}{\sqrt{c+dx}} \right], \frac{f \left(-dg+ch\right)}{\left(-de+cf\right) h} \right] \right)$$

$$\left(\sqrt{1 - \frac{-de+cf}{f}} \ \sqrt{\left(f + \frac{de-cf}{c+dx}\right) \left(h + \frac{dg-ch}{c+dx}\right)} - \frac{10 i a c^2 C d f^3 h^3 \sqrt{1 - \frac{-de+cf}{f} \left(c+dx\right)} \right)$$

$$\sqrt{1 - \frac{-dg+ch}{h \left(c+dx\right)}} \ EllipticF \left[i ArcSinh \left[\frac{\sqrt{-\frac{-de+cf}{f}}}{\sqrt{c+dx}} \right], \frac{f \left(-dg+ch\right)}{\left(-de+cf\right) h} \right] \right)$$

$$\left(\sqrt{1 - \frac{-dg+ch}{f}} \ \sqrt{\left(f + \frac{de-cf}{c+dx}\right) \left(h + \frac{dg-ch}{c+dx}\right)} + \frac{15 i A b c d^2 f^3 h^3 \sqrt{1 - \frac{-de+cf}{f} \left(c+dx\right)} \right)$$

$$\sqrt{1 - \frac{-dg+ch}{h \left(c+dx\right)}} \ EllipticF \left[i ArcSinh \left[\frac{\sqrt{-\frac{-de+cf}{f}}}{\sqrt{c+dx}} \right], \frac{f \left(-dg+ch\right)}{\left(-de+cf\right) h} \right] \right)$$

$$\sqrt{1 - \frac{-de+cf}{f}} \ \sqrt{\left(f + \frac{de-cf}{c+dx}\right) \left(h + \frac{dg-ch}{c+dx}\right)} \ EllipticF \left[i ArcSinh \left[\frac{\sqrt{-\frac{-de+cf}{f}}}{\sqrt{c+dx}} \right], \frac{-\frac{-de+cf}{f}}{\sqrt{c+dx}} \right]$$

$$\left(15 i a A d^3 f^3 h^3 \sqrt{1 - \frac{-de+cf}{f \left(c+dx\right)}} \ \sqrt{1 - \frac{-dg+ch}{h \left(c+dx\right)}} \ EllipticF \left[i ArcSinh \left[\frac{\sqrt{-\frac{-de+cf}{f}}}{\sqrt{c+dx}} \right], \frac{-\frac{-de+cf}{f \left(c+dx\right)} \left(h + \frac{-dg-ch}{f \left(c+dx\right)} \right) \right) \right)$$

Problem 28: Result unnecessarily involves imaginary or complex numbers.

$$\int \frac{A + C x^2}{\sqrt{c + d x} \sqrt{e + f x} \sqrt{g + h x}} dx$$

Optimal (type 4, 368 leaves, 7 steps):

$$\frac{2\,C\,\sqrt{c+d\,x}\,\,\sqrt{e+f\,x}\,\,\sqrt{g+h\,x}}{3\,d\,f\,h} = \left[4\,C\,\sqrt{-d\,e+c\,f}\,\,\left(d\,f\,g+d\,e\,h+c\,f\,h\right)\,\,\sqrt{\frac{d\,\left(e+f\,x\right)}{d\,e-c\,f}}\,\,\sqrt{g+h\,x}\right]}{\sqrt{g+h\,x}}$$

$$EllipticE\left[ArcSin\left[\frac{\sqrt{f}\,\,\sqrt{c+d\,x}}{\sqrt{-d\,e+c\,f}}\right],\,\,\frac{\left(d\,e-c\,f\right)\,h}{f\,\left(d\,g-c\,h\right)}\right]\right] / \left[3\,d^2\,f^{3/2}\,h^2\,\sqrt{e+f\,x}\,\,\sqrt{\frac{d\,\left(g+h\,x\right)}{d\,g-c\,h}}\right] + \left[2\,\sqrt{-d\,e+c\,f}\,\,\left(3\,A\,d\,f\,h^2+C\,\left(c\,h\,\left(f\,g-e\,h\right)+d\,g\,\left(2\,f\,g+e\,h\right)\right)\right)\,\,\sqrt{\frac{d\,\left(e+f\,x\right)}{d\,e-c\,f}}\,\,\sqrt{\frac{d\,\left(g+h\,x\right)}{d\,g-c\,h}}\right] + \left[2\,\sqrt{-d\,e+c\,f}\,\,\left(3\,A\,d\,f\,h^2+C\,\left(c\,h\,\left(f\,g-e\,h\right)+d\,g\,\left(2\,f\,g+e\,h\right)\right)\right)\right] / \left(3\,d^2\,f^{3/2}\,h^2\,\sqrt{e+f\,x}\,\,\sqrt{g+h\,x}\right)$$

Result (type 4, 390 leaves):

Problem 29: Result unnecessarily involves complex numbers and more than twice size of optimal antiderivative.

$$\int \frac{A + C x^2}{(a + b x) \sqrt{c + d x} \sqrt{e + f x} \sqrt{g + h x}} dx$$

Optimal (type 4, 465 leaves, 11 steps):

$$\left[2\,C\,\sqrt{-\,d\,e + c\,f} \,\sqrt{\frac{d\,\left(e + f\,x\right)}{d\,e - c\,f}} \,\sqrt{g + h\,x} \,\, \text{EllipticE} \left[\text{ArcSin} \left[\frac{\sqrt{f}\,\,\sqrt{c + d\,x}}{\sqrt{-d\,e + c\,f}} \right] , \, \frac{\left(d\,e - c\,f\right)\,h}{f\,\left(d\,g - c\,h\right)} \right] \right] / \\ \left[b\,d\,\sqrt{f}\,\,h\,\sqrt{e + f\,x} \,\sqrt{\frac{d\,\left(g + h\,x\right)}{d\,g - c\,h}} \,- \, \left[2\,C\,\sqrt{-d\,e + c\,f} \,\left(b\,g + a\,h\right) \,\sqrt{\frac{d\,\left(e + f\,x\right)}{d\,e - c\,f}} \,\sqrt{\frac{d\,\left(g + h\,x\right)}{d\,g - c\,h}} \right] \right] / \left[b^2\,d\,\sqrt{f}\,\,h\,\sqrt{e + f\,x} \,\sqrt{g + h\,x} \right) - \\ \left[2\,\left[A + \frac{a^2\,C}{b^2} \right] \sqrt{-d\,e + c\,f} \,\sqrt{\frac{d\,\left(e + f\,x\right)}{d\,e - c\,f}} \,\sqrt{\frac{d\,\left(g + h\,x\right)}{d\,g - c\,h}} \,\, \text{EllipticPi} \left[-\frac{b\,\left(d\,e - c\,f\right)}{\left(b\,c - a\,d\right)\,f} \right] \right] / \left[\left(b\,c - a\,d\right)\,\sqrt{f}\,\,\sqrt{e + f\,x} \,\sqrt{g + h\,x} \right) - \\ ArcSin \left[\frac{\sqrt{f}\,\,\sqrt{c + d\,x}}{\sqrt{-d\,e + c\,f}} \right] , \, \frac{\left(d\,e - c\,f\right)\,h}{f\,\left(d\,g - c\,h\right)} \right] / \left(\left(b\,c - a\,d\right)\,\sqrt{f}\,\,\sqrt{e + f\,x}\,\,\sqrt{g + h\,x} \right)$$

Result (type 4, 13075 leaves):

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

$$\begin{array}{c} a\, C\, d^3\, e\, g\, \sqrt{h + \frac{d\, g}{c_1 d\, x} - \frac{c\, h}{c_2 d\, x}} \\ b\, \left(b\, c - a\, d\right)\, f\, h\, \left(d\, g - c\, h\right)\, \sqrt{f + \frac{d\, e}{c_1 d\, x} - \frac{c\, f}{c_2 d\, x}} \\ \\ a\, c^2\, C\, d\, \sqrt{h + \frac{d\, g}{c_2 d\, x} - \frac{c\, h}{c_2 d\, x}} \\ \\ b\, \left(b\, c - a\, d\right)\, \left(-d\, g + c\, h\right)\, \sqrt{f + \frac{d\, e}{c_2 d\, x}} - \frac{c\, f}{c_2 d\, x} \\ \\ b\, \left(b\, c - a\, d\right)\, \left(-d\, g + c\, h\right)\, \sqrt{f + \frac{d\, e}{c_2 d\, x} - \frac{c\, f}{c_2 d\, x}} \\ \\ \\ b\, \left(b\, c - a\, d\right)\, f\, \left(-d\, g + c\, h\right)\, \sqrt{f + \frac{d\, e}{c_2 d\, x} - \frac{c\, f}{c_2 d\, x}} \\ \\ \\ b\, \left(b\, c - a\, d\right)\, f\, \left(-d\, g + c\, h\right)\, \sqrt{f + \frac{d\, e}{c_2 d\, x} - \frac{c\, f}{c_2 d\, x}}} \\ \\ \\ c^2\, C\, d\, g\, \sqrt{h + \frac{d\, g}{c_2 d\, x} - \frac{c\, h}{c_2 d\, x}}} \\ \\ \\ c\, c\, C\, d^2\, g\, \sqrt{h + \frac{d\, g}{c_2 d\, x} - \frac{c\, h}{c_2 d\, x}}} \\ \\ \\ b\, \left(b\, c - a\, d\right)\, h\, \left(-d\, g + c\, h\right)\, \sqrt{f + \frac{d\, e}{c_2 d\, x} - \frac{c\, f}{c_2 d\, x}}} \\ \\ \\ c\, C\, C\, d^2\, e\, g\, \sqrt{h + \frac{d\, g}{c_2 d\, x} - \frac{c\, h}{c_2 d\, x}}} \\ \\ \\ \\ \left(b\, c - a\, d\right)\, f\, h\, \left(-d\, g + c\, h\right)\, \sqrt{f + \frac{d\, e}{c_2 d\, x} - \frac{c\, f}{c_2 d\, x}}} \\ \\ \\ \\ \left(b\, c - a\, d\right)\, f\, h\, \left(-d\, g + c\, h\right)\, \sqrt{f + \frac{d\, e}{c_2 d\, x} - \frac{c\, f}{c_2 d\, x}}} \\ \\ \\ \\ \left(b\, c - a\, d\right)\, f\, h\, \left(-d\, g + c\, h\right)\, \sqrt{f + \frac{d\, e}{c_2 d\, x} - \frac{c\, f}{c_2 d\, x}}} \\ \\ \\ \left(b\, c - a\, d\right)\, f\, h\, \left(-d\, g + c\, h\right)\, \sqrt{f + \frac{d\, e}{c_2 d\, x} - \frac{c\, f}{c_2 d\, x}}} \\ \\ \\ \left(b\, c - a\, d\right)\, f\, h\, \left(-d\, g + c\, h\right)\, \sqrt{f + \frac{d\, e}{c_2 d\, x} - \frac{c\, f}{c_2 d\, x}}} \\ \\ \\ \left(b\, c - a\, d\right)\, f\, h\, \left(-d\, g + c\, h\right)\, \sqrt{f + \frac{d\, e}{c_2 d\, x} - \frac{c\, f}{c_2 d\, x}}} \\ \\ \\ \left(b\, c - a\, d\right)\, f\, h\, \left(-d\, g + c\, h\right)\, \sqrt{f + \frac{d\, e}{c_2 d\, x} - \frac{c\, f}{c_2 d\, x}}} \\ \\ \\ \left(b\, c - a\, d\right)\, f\, h\, \left(-d\, g + c\, h\right)\, \sqrt{f + \frac{d\, e}{c_2 d\, x} - \frac{c\, f}{c_2 d\, x}}} \\ \\ \\ \left(b\, c - a\, d\right)\, f\, h\, \left(-d\, g + c\, h\right)\, \sqrt{f + \frac{d\, e}{c_2 d\, x} - \frac{c\, f}{c_2 d\, x}}} \\ \\ \left(b\, c - a\, d\right)\, f\, h\, \left(-d\, g + c\, h\right)\, \sqrt{f + \frac{d\, e}{c_2 d\, x} - \frac{c\, f}{c_2 d\, x}}} \\ \\ \left(b\, c - a\, d\right)\, f\, h\, \left(-d\, g + c\, h\right)\, \sqrt{f + \frac{d\, e}{c_2 d\, x} - \frac{c\, f}{c_2 d\, x}}} \\ \\ \left(b\, c - a\, d\right)\, f\, h\, \left(-d\, g + c\, h\right)\, \sqrt{f + \frac{d\, e}{c_2 d\, x} - \frac{c\, f}{c_2 d\, x}}} \\ \\ \left(b\, c - a\, d\right)\, f\, h\, \left(-d\, g + c\, h\right)\, \sqrt{f$$

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

$$\left(\left(-\mathsf{d} e + \mathsf{c} f\right) \sqrt{-\frac{\mathsf{d} g + \mathsf{c} h}{h}} \, \sqrt{\left(f h + \frac{\mathsf{d}^2 \, \mathsf{e} \, \mathsf{g} - \mathsf{c} \, \mathsf{d} \, \mathsf{g} + \mathsf{c}^2 \, \mathsf{f} \, \mathsf{h}}{\left(\mathsf{c} + \mathsf{d} x\right)^2}} + \frac{\mathsf{d} \, \mathsf{f} \, \mathsf{g} + \mathsf{d} \, \mathsf{e} \, \mathsf{h} - 2 \, \mathsf{c} \, \mathsf{f} \, \mathsf{h}}{\mathsf{c} + \mathsf{d} \, \mathsf{d} \, \mathsf{m}} \right) - \left[i \, \mathsf{c} \, \mathsf{c} \, \mathsf{d} \, \mathsf{f}^2 \, \mathsf{g} \, \sqrt{1 - \frac{\mathsf{d} \, \mathsf{e} + \mathsf{c} \, f}{f\left(\mathsf{c} + \mathsf{d} \, x\right)}} \, \sqrt{1 - \frac{\mathsf{d} \, \mathsf{g} + \mathsf{c} \, h}{h\left(\mathsf{c} + \mathsf{d} \, x\right)}} \right]$$

$$\left(\mathsf{EllipticE} \Big[i \, \mathsf{ArcSinh} \Big[\frac{\sqrt{-\frac{\mathsf{d} \, \mathsf{g} + \mathsf{c} \, h}}{\mathsf{d} \, \mathsf{f} \, \mathsf{d} - \mathsf{d} \, \mathsf{g} + \mathsf{c} \, h} \right] - \mathsf{EllipticF} \Big[$$

$$i \, \mathsf{ArcSinh} \Big[\frac{\sqrt{-\frac{\mathsf{d} \, \mathsf{g} + \mathsf{c} \, h}}{\mathsf{d} \, \mathsf{f} \, \mathsf{d} - \mathsf{d} \, \mathsf{g} + \mathsf{c} \, h} \Big] \right] \Bigg/ \left(\left(-\mathsf{d} \, \mathsf{e} + \mathsf{c} \, f\right) \, \sqrt{-\frac{\mathsf{d} \, \mathsf{g} + \mathsf{c} \, h}{h}} \right)$$

$$\sqrt{\left(f \, \mathsf{h} + \frac{\mathsf{d}^2 \, \mathsf{e} \, \mathsf{g} - \mathsf{c} \, \mathsf{d} \, \mathsf{f} \, \mathsf{g} - \mathsf{c} \, \mathsf{d} \, \mathsf{e} + \mathsf{c}^2 \, f \, h}{\left(\mathsf{c} + \mathsf{d} \, x\right)^2}} + \frac{\mathsf{d} \, \mathsf{f} \, \mathsf{g} + \mathsf{d} \, \mathsf{e} + \mathsf{c}^2 \, \mathsf{f} \, h}{\mathsf{c} + \mathsf{d} \, x} \right) -$$

$$\left[i \, \mathsf{c} \, \mathsf{C} \, \mathsf{d} \, \mathsf{e} \, \mathsf{f} \, \sqrt{1 - \frac{\mathsf{d} \, \mathsf{g} + \mathsf{c} \, h}{h}} \, \sqrt{\mathsf{d} \, \mathsf{f} \, \mathsf{d} + \mathsf{c}^2 \, \mathsf{f} \, h}} \right] - \mathsf{EllipticE} \Big[i \, \mathsf{ArcSinh} \Big[\frac{\sqrt{-\frac{\mathsf{d} \, \mathsf{g} + \mathsf{c} \, h}}{\mathsf{d} \, \mathsf{d} + \mathsf{d} \, \mathsf{d} + \mathsf{d} +$$

$$\left. \frac{\text{d} \, f \, g + d \, e \, h - 2 \, c \, f \, h}{c + d \, x} \right) \right) \, + \, \left(\dot{\mathbb{1}} \, c^2 \, C \, f^2 \, h \, \sqrt{1 - \frac{-d \, e + c \, f}{f \, \left(c + d \, x\right)}} \, \sqrt{1 - \frac{-d \, g + c \, h}{h \, \left(c + d \, x\right)}} \right) \, dx + \left(\dot{\mathbb{1}} \, c \, d \, x \,$$

$$\left[\text{EllipticE} \left[\text{i} \, \operatorname{ArcSinh} \left[\, \frac{\sqrt{-\frac{-d \, g + c \, h}{h}}}{\sqrt{c + d \, x}} \right] , \, \frac{\left(-d \, e + c \, f \right) \, h}{f \, \left(-d \, g + c \, h \right)} \right] - \text{EllipticF} \left[\right] \right]$$

$$\label{eq:linear_problem} \text{$\dot{\mathbb{1}}$ ArcSinh} \Big[\, \frac{\sqrt{-\, \frac{-d \, g + c \, h}{h}}}{\sqrt{c + d \, x}} \, \Big] \, \text{,} \, \, \frac{\left(-\, d \, e + c \, f \right) \, h}{f \, \left(-\, d \, g + c \, h \right)} \, \Big] \, \Bigg) \Bigg/ \, \left(\left(-\, d \, e + c \, f \right) \, \sqrt{-\, \frac{-\, d \, g + c \, h}{h}} \, \right) \, .$$

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

$$\label{eq:linear_continuity} \dot{\mathbb{I}} \ \text{ArcSinh} \Big[\, \frac{\sqrt{-\frac{-d \, g + c \, h}{h}}}{\sqrt{c + d \, x}} \Big] \text{, } \frac{\left(-\, d \, e + c \, f\right) \, h}{f\left(-\, d \, g + c \, h\right)} \Big] \, \Bigg/ \, \left(\left(b \, c - a \, d\right)^2 \, \sqrt{-\frac{-d \, g + c \, h}{h}} \right)$$

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

$$\label{eq:linear_property} \mbox{$\dot{1}$ ArcSinh} \Big[\, \frac{\sqrt{-\, \frac{-d\, g + c\, h}{h}}}{\sqrt{c + d\, x}} \Big] \, \mbox{, } \, \frac{\left(-\, d\, e + c\, f\right)\, h}{f\, \left(-\, d\, g + c\, h\right)} \Big] \, \Bigg/ \, \left(\left(b\, c - a\, d\right)^2 \, \sqrt{-\, \frac{-\, d\, g + c\, h}{h}} \right) \, .$$

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

$$i \, b \, C \, d^2 \, e \, g \, \sqrt{1 - \frac{-d \, e + c \, f}{f \, \left(c + d \, x\right)}} \, \sqrt{1 - \frac{-d \, g + c \, h}{h \, \left(c + d \, x\right)}} \, EllipticF \Big[$$

$$i \, Arc Sinh \Big[\frac{\sqrt{\frac{-d \, g + c \, h}{h}}}{\sqrt{c + d \, x}} \Big], \, \frac{\left(-d \, e + c \, f\right) \, h}{f \, \left(-d \, g + c \, h\right)} \Big] \bigg/ \left(b \, c - a \, d \right) \, \sqrt{-\frac{-d \, g + c \, h}{h}}$$

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

$$i \, Arc Sinh \Big[\frac{\sqrt{\frac{-d \, g + c \, h}{f \, \left(c + d \, x\right)}}}{\sqrt{c + d \, x}} \Big], \, \frac{\left(-d \, e + c \, f\right) \, h}{f \, \left(-d \, g + c \, h\right)} \Big] \bigg/ \left(b \, c - a \, d \right)^2 \, \sqrt{-\frac{-d \, g + c \, h}{h}}$$

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

$$i \, Arc Sinh \Big[\frac{\sqrt{-\frac{-d \, g + c \, h}{f \, \left(c + d \, x\right)}}}{\sqrt{c + d \, x}} \Big], \, \frac{\left(-d \, e + c \, f\right) \, h}{h \, \left(c + d \, x\right)} \, EllipticF \Big[$$

$$i \, Arc Sinh \Big[\frac{\sqrt{-\frac{-d \, g + c \, h}{f \, \left(c + d \, x\right)}}}{\sqrt{c + d \, x}} \Big], \, \frac{\left(-d \, e + c \, f\right) \, h}{f \, \left(-d \, g + c \, h\right)} \Big] \bigg/ \left(b \, c - a \, d \right)^2 \, \sqrt{-\frac{-d \, g + c \, h}{h}}}$$

$$\begin{split} & \left[i \, b \, c \, C \, d \, f \, g \, \sqrt{1 - \frac{-d \, e + c \, f}{f \, \left(c + d \, x\right)}} \, \sqrt{1 - \frac{-d \, g + c \, h}{h \, \left(c + d \, x\right)}} \, \, EllipticF \right[\\ & \left[i \, ArcSinh \left[\frac{\sqrt{-\frac{-d \, g + c \, h}{h}}}{\sqrt{c + d \, x}} \right], \, \frac{\left(-d \, e + c \, f\right) \, h}{f \, \left(-d \, g + c \, h\right)} \right] \right] / \left(\left(b \, c - a \, d \right) \, \sqrt{-\frac{-d \, g + c \, h}{h}} \\ & \sqrt{\left(f \, h + \frac{d^2 \, e \, g - c \, d \, f \, g - c \, d \, e \, h + c^2 \, f \, h}{\left(c + d \, x\right)^2} + \frac{d \, f \, g + d \, e \, h - 2 \, c \, f \, h}{c + d \, x} \right) \right) + \\ & \left[i \, b^2 \, c^2 \, C \, d \, e \, h \, \sqrt{1 - \frac{-d \, e + c \, f}{f \, \left(c + d \, x\right)}} \, \sqrt{1 - \frac{-d \, g + c \, h}{h \, \left(c + d \, x\right)}} \, EllipticF \right[\\ & \left[i \, ArcSinh \left[\frac{\sqrt{-\frac{-d \, g + c \, h}{f \, \left(c + d \, x\right)}} \, \right], \, \frac{\left(-d \, e + c \, f\right) \, h}{f \, \left(-d \, g + c \, h\right)} \, \right] \right] / \left(\left(b \, c - a \, d \right)^2 \, \sqrt{-\frac{-d \, g + c \, h}{h}} \\ & \sqrt{\left(f \, h + \frac{d^2 \, e \, g - c \, d \, f \, g - c \, d \, e \, h + c^2 \, f \, h}{\left(c + d \, x\right)^2} + \frac{d \, f \, g + d \, e \, h - 2 \, c \, f \, h}{c + d \, x}} \right) \right] - \end{split}$$

$$\label{eq:linear_property} \mbox{$\dot{1}$ ArcSinh} \Big[\, \frac{\sqrt{-\, \frac{-d\, g + c\, h}{h}}}{\sqrt{c + d\, x}} \Big] \, \mbox{, } \, \frac{\left(-\, d\, e + c\, f \right)\, h}{f\, \left(-\, d\, g + c\, h \right)} \Big] \, \Bigg/ \, \left(\left(b\, c - a\, d \right)^2 \, \sqrt{-\, \frac{-\, d\, g + c\, h}{h}} \right) \, dt + c\, dt$$

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

$$\begin{vmatrix} i \, b \, c \, C \, d \, e \, h \, \sqrt{1 - \frac{-d \, e + c \, f}{f \, \left(c + d \, x\right)}} \, \sqrt{1 - \frac{-d \, g + c \, h}{h \, \left(c + d \, x\right)}} \, EllipticF \Big[$$

$$i \, Arc Sinh \Big[\frac{\sqrt{-\frac{-d \, g + c \, h}{h}}}{\sqrt{c + d \, x}} \Big], \, \frac{\left(-d \, e + c \, f\right) \, h}{f \, \left(-d \, g + c \, h\right)} \Big] \Bigg/ \left(\left(b \, c - a \, d\right) \, \sqrt{-\frac{-d \, g + c \, h}{h}} \right)$$

$$\sqrt{\left(f \, h + \frac{d^2 \, e \, g - c \, d \, f \, g - c \, d \, e \, h + c^2 \, f \, h}{\left(c + d \, x\right)^2} + \frac{d \, f \, g + d \, e \, h - 2 \, c \, f \, h}{c + d \, x} \right) \Big] -$$

$$\begin{vmatrix} i \, b^2 \, c^3 \, C \, f \, h \, \sqrt{1 - \frac{-d \, e + c \, f}{f \, \left(c + d \, x\right)}} \, \sqrt{1 - \frac{-d \, g + c \, h}{h \, \left(c + d \, x\right)}} \, EllipticF \Big[$$

$$i \, Arc Sinh \Big[\frac{\sqrt{-\frac{-d \, g + c \, h}{f \, \left(c + d \, x\right)}} \, \sqrt{\frac{-d \, g + c \, h}{h \, \left(c + d \, x\right)}} \, + \frac{d \, f \, g + d \, e \, h - 2 \, c \, f \, h}{c + d \, x} \Big] +$$

$$\begin{vmatrix} i \, a \, b \, c^2 \, C \, d \, f \, h \, \sqrt{1 - \frac{-d \, e + c \, f}{f \, \left(c + d \, x\right)}} \, \sqrt{1 - \frac{-d \, g + c \, h}{h \, \left(c + d \, x\right)}} \, EllipticF \Big[$$

$$i \, Arc Sinh \Big[\frac{\sqrt{-\frac{-d \, g + c \, h}{f \, \left(c + d \, x\right)}} \, \sqrt{1 - \frac{-d \, g + c \, h}{h \, \left(c + d \, x\right)}} \, EllipticF \Big[$$

$$i \, Arc Sinh \Big[\frac{\sqrt{-\frac{-d \, g + c \, h}{f \, \left(c + d \, x\right)}} \, \sqrt{1 - \frac{-d \, g + c \, h}{h \, \left(c + d \, x\right)}} \, EllipticF \Big[$$

$$\left[2 \text{ i } \text{b } \text{c}^2 \text{Cfh} \sqrt{1 - \frac{-\text{d} \, \text{e} + \text{cf}}{\text{f} \, \left(\text{c} + \text{d} \, \text{x} \right)}} \, \sqrt{1 - \frac{-\text{d} \, \text{g} + \text{ch}}{\text{h} \, \left(\text{c} + \text{d} \, \text{x} \right)}} \, \text{EllipticF} \right[$$

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

$$\sqrt{\left(\text{fh} + \frac{\text{d}^2 \, \text{e} \, \text{g} - \text{c} \, \text{d} \, \text{fg} - \text{cd} \, \text{eh} + \text{c}^2 \, \text{fh}}{\left(\text{c} + \text{d} \, \text{x} \right)^2} + \frac{\text{d} \, \text{fg} + \text{deh} - 2 \, \text{cfh}}{\text{c} + \text{d} \, \text{x}} \right) \right) +$$

$$\left[\text{i } \text{Ab} \, \text{d}^2 \, \text{fh} \, \sqrt{1 - \frac{-\text{d} \, \text{e} + \text{cf}}{\text{f} \, \left(\text{c} + \text{d} \, \text{x} \right)}} \, \sqrt{1 - \frac{-\text{d} \, \text{g} + \text{ch}}{\text{h} \, \left(\text{c} + \text{d} \, \text{x} \right)}} \, \text{EllipticF} \right[$$

$$\text{i } \text{ArcSinh} \left[\frac{\sqrt{-\frac{-\text{dg} + \text{ch}}{\text{f} \, \left(\text{c} + \text{d} \, \text{x} \right)}}}{\sqrt{\text{c} + \text{d} \, \text{x}}} \right], \, \frac{\left(-\text{d} \, \text{e} + \text{cf} \, \text{h}}{\text{h} \, \left(\text{c} + \text{d} \, \text{x} \right)} \right] / \left(\left(\text{b} \, \text{c} - \text{ad} \, \text{d} \right) \sqrt{-\frac{-\text{dg} + \text{ch}}{\text{h}}}} \right)$$

$$\sqrt{\left(fh + \frac{d^2 e g - c d f g - c d e h + c^2 f h}{\left(c + d x\right)^2} + \frac{d f g + d e h - 2 c f h}{c + d x}\right)} +$$

$$\frac{1}{\left(b\,c-a\,d\right)^3}b^3\,c\,C\,d^2\,e\,g\,\left(\left[\dot{\mathbb{1}}\,c\,\sqrt{1-\frac{-\,d\,e+c\,f}{f\,\left(c+d\,x\right)}}\,\,\sqrt{1-\frac{-\,d\,g+c\,h}{h\,\left(c+d\,x\right)}}\right]\right)$$

$$\label{eq:energy_energy_energy_energy} \text{EllipticPi} \Big[\frac{\left(b \ c - a \ d \right) \ h}{b \ \left(- d \ g + c \ h \right)} \text{, i ArcSinh} \Big[\frac{\sqrt{-\frac{-d \ g + c \ h}{h}}}{\sqrt{c + d \ x}} \Big] \text{, } \frac{\left(- d \ e + c \ f \right) \ h}{f \ \left(- d \ g + c \ h \right)} \Big] \Bigg] /$$

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

$$\begin{split} \frac{dfg}{c+dx} + \frac{deh}{c+dx} - \frac{2\,c\,f\,h}{c+d\,x} \bigg) &- \left[i\,a\,d\,\sqrt{1 - \frac{-d\,e + c\,f}{f\,(c+d\,x)}} \,\,\sqrt{1 - \frac{-d\,g + c\,h}{h\,(c+d\,x)}} \right. \\ &= EllipticPi \Big[\frac{\left(b\,c - a\,d \right)\,h}{b\,\left(-d\,g + c\,h \right)} \,, \, i\,ArcSinh \Big[\frac{\sqrt{-\frac{-d\,g + c\,h}{h\,(c+d\,x)}}} {\sqrt{c+d\,x}} \Big] \,, \, \frac{\left(-d\,e + c\,f \right)\,h}{f\,\left(-d\,g + c\,h \right)} \Big] \bigg/ \\ &= \left[\frac{c\,d\,f\,g}{\left(c+d\,x \right)^2} + \frac{d\,f\,g}{c+d\,x} + \frac{d\,e\,h}{c+d\,x} - \frac{2\,c\,f\,h}{c\,c+d\,x} \right] \bigg) - \frac{c\,d\,e\,h}{\left(c+d\,x \right)^2} + \\ &= \frac{c^2\,f\,h}{\left(c+d\,x \right)^2} + \frac{d\,f\,g}{c+d\,x} + \frac{d\,e\,h}{c+d\,x} - \frac{2\,c\,f\,h}{c\,c+d\,x} \bigg) \bigg] - \frac{1}{\left(b\,c - a\,d \right)^3} \\ &= a\,b^2\,C\,d^2\,e\,g \left[\left(i\,c\,\sqrt{1 - \frac{-d\,e + c\,f}{f\,\left(c+d\,x \right)}} \,\,\sqrt{1 - \frac{-d\,g + c\,h}{h\,\left(c+d\,x \right)}} \,\,EllipticPi\,\Big[\frac{\left(b\,c - a\,d \right)\,h}{b\,\left(-d\,g + c\,h \right)} \,, \\ &= i\,ArcSinh \Big[\frac{\sqrt{-\frac{-d\,g + c\,h}{h\,\left(c+d\,x \right)}}} {\sqrt{c+d\,x}} \Big] \,, \, \frac{\left(-d\,e + c\,f \right)\,h}{f\,\left(-d\,g + c\,h \right)} \bigg] \bigg/ \left(\sqrt{-\frac{-d\,g + c\,h}{h\,\left(c+d\,x \right)^2}} + \frac{d\,e\,h}{c+d\,x} - \frac{2\,c\,f\,h}{c+d\,x} \right) \bigg] - \\ &= \left[i\,a\,d\,\sqrt{1 - \frac{-d\,e + c\,f}{f\,\left(c+d\,x \right)}} \,\,\sqrt{1 - \frac{-d\,g + c\,h}{h\,\left(c+d\,x \right)^2}} \,\,EllipticPi\,\Big[\frac{\left(b\,c - a\,d \right)\,h}{c+d\,x} \,, \, i\,ArcSinh \Big[-\frac{d^2\,e\,g}{\left(c+d\,x \right)^2} \,, \, \frac{\left(-d\,e + c\,f \right)\,h}{h\,\left(c+d\,x \right)} \,\right] \bigg/ \left(b\,\sqrt{-\frac{-d\,g + c\,h}{h}} \,\,\sqrt{\left(f\,h + \frac{d^2\,e\,g}{\left(c+d\,x \right)^2} - \frac{d^2\,e\,g}{\left(c+d\,x \right)^2} \,, \, \frac{\left(-d\,e + c\,f \right)\,h}{h\,\left(c+d\,x \right)} \,\right] \bigg/ \left(b\,\sqrt{-\frac{-d\,g + c\,h}{h}} \,\,\sqrt{\left(f\,h + \frac{d^2\,e\,g}{\left(c+d\,x \right)^2} - \frac{d^2\,e\,g}{\left(c+d\,x \right)^2} \,, \, \frac{\left(-d\,e + c\,f \right)\,h}{h\,\left(c+d\,x \right)} \,\right] \bigg/ \left(b\,\sqrt{-\frac{-d\,g + c\,h}{h}} \,\,\sqrt{\left(f\,h + \frac{d^2\,e\,g}{\left(c+d\,x \right)^2} - \frac{d^2\,e\,g}{\left(c+d\,x \right)^2} \,, \, \frac{\left(-d\,e + c\,f \right)\,h}{h\,\left(c+d\,x \right)} \,\right] \bigg/ \left(b\,\sqrt{-\frac{-d\,g + c\,h}{h}} \,\,\sqrt{\left(f\,h + \frac{d^2\,e\,g}{\left(c+d\,x \right)^2} - \frac{d^2\,e\,g}{\left(c+d\,x \right)^2} \,, \, \frac{d\,e\,h}{h\,\left(c+d\,x \right)} \,, \, \frac{d\,e\,h}{h\,\left(c+d\,x \right)^2} \,, \, \frac{d\,e\,h}{h\,\left(c+d\,x \right)^2} \,\right] \bigg/ \left(b\,\sqrt{-\frac{d\,g + c\,h}{h}} \,\,\sqrt{\left(c+d\,x \right)^2} \,, \, \frac{d\,e\,h}{h\,\left(c+d\,x \right)^2} \,, \, \frac{d\,e\,h}{h\,\left(c+d\,x \right)^2} \,, \, \frac{d\,e\,h}{h\,\left(c+d\,x \right)^2} \,\right) \bigg/ \left(b\,\sqrt{-\frac{d\,g + c\,h}{h}} \,\,\sqrt{\left(c+d\,x \right)^2} \,, \, \frac{d\,e\,h}{h\,\left(c+d\,x \right)^2} \,, \, \frac{d\,e\,h}{h\,\left(c+d\,x \right)^2} \,, \, \frac{d\,e\,h}{h\,\left($$

$$\frac{c\,d\,f\,g}{\left(c+d\,x\right)^2} - \frac{c\,d\,e\,h}{\left(c+d\,x\right)^2} + \frac{c^2\,f\,h}{\left(c+d\,x\right)^2} + \frac{d\,f\,g}{c+d\,x} + \frac{d\,e\,h}{c+d\,x} - \frac{2\,c\,f\,h}{c+d\,x} \right) \bigg] - \\ \frac{1}{\left(b\,c-a\,d\right)^2} b^2\,C\,d^2\,e\,g \left[\left[i\,c\,\sqrt{1 - \frac{-d\,e+c\,f}{f\,\left(c+d\,x\right)}} \,\,\sqrt{1 - \frac{-d\,g+c\,h}{h\,\left(c+d\,x\right)}} \,\,EllipticPi \right[\\ \frac{\left(b\,c-a\,d\right)\,h}{b\,\left(-d\,g+c\,h\right)} \,,\,\, i\,ArcSinh \Big[\frac{\sqrt{-\frac{-d\,g+c\,h}{h}}}{\sqrt{c+d\,x}} \Big] \,,\,\, \frac{\left(-d\,e+c\,f\right)\,h}{f\,\left(-d\,g+c\,h\right)} \Big] \bigg] \bigg/ \\ \left[\sqrt{-\frac{-d\,g+c\,h}{h}} \,\,\sqrt{\left(f\,h + \frac{d^2\,e\,g}{\left(c+d\,x\right)^2} - \frac{c\,d\,f\,g}{\left(c+d\,x\right)^2} - \frac{c\,d\,e\,h}{\left(c+d\,x\right)^2} + \frac{c^2\,f\,h}{\left(c+d\,x\right)^2} + \\ \frac{d\,f\,g}{c+d\,x} + \frac{d\,e\,h}{c+d\,x} - \frac{2\,c\,f\,h}{c+d\,x} \right) - \left[i\,a\,d\,\sqrt{1 - \frac{-d\,e+c\,f}{f\,\left(c+d\,x\right)}} \,\,\sqrt{1 - \frac{-d\,g+c\,h}{h\,\left(c+d\,x\right)}} \right] \\ EllipticPi \Big[\frac{\left(b\,c-a\,d\right)\,h}{b\,\left(-d\,g+c\,h\right)} \,,\,\, i\,ArcSinh \Big[\frac{\sqrt{-\frac{d\,g+c\,h}{f\,\left(c+d\,x\right)}}}{\sqrt{c+d\,x}} \Big] \,,\,\, \frac{\left(-d\,e+c\,f\right)\,h}{f\,\left(-d\,g+c\,h\right)} \Big] \bigg/ \\ \left[b\,\sqrt{-\frac{-d\,g+c\,h}{h}} \,\,\sqrt{\left(f\,h + \frac{d^2\,e\,g}{\left(c+d\,x\right)^2} - \frac{c\,d\,f\,g}{\left(c+d\,x\right)^2} - \frac{c\,d\,e\,h}{\left(c+d\,x\right)^2} + \frac{c\,d\,e\,h}{\left(c+d\,x\right)^2} + \frac{c^2\,f\,h}{\left(c+d\,x\right)^2} + \frac{d\,f\,g}{c+d\,x} + \frac{d\,e\,h}{c+d\,x} - \frac{2\,c\,f\,h}{c+d\,x} \right) \right] - \frac{1}{\left(b\,c-a\,d\right)^3} \\ b^3\,c^2\,C\,d\,f\,g \left[i\,c\,\sqrt{1 - \frac{-d\,e+c\,f}{f\,\left(c+d\,x\right)}} \,\,\sqrt{1 - \frac{-d\,g+c\,h}{h\,\left(c+d\,x\right)}} \,\,EllipticPi\,\Big[\frac{\left(b\,c-a\,d\right)\,h}{b\,\left(-d\,g+c\,h\right)} \,,\,\, \frac{\left(-d\,e+c\,f\right)\,h}{b\,\left(-d\,g+c\,h\right)} \,,\,\, \frac{\left(-d\,e+c\,f\right)\,h}{\left(c+d\,x\right)^2} + \frac{\left(-d\,e+c\,f\right)\,h}{\left(c+d\,x\right)^2} \right] \right]$$

$$\begin{split} & i \, \text{ArcSinh} \Big[\frac{\sqrt{-\frac{d \, g + c \, h}{h}}}{\sqrt{c + d \, x}} \Big], \, \frac{\left(-d \, e + c \, f \right) \, h}{f \left(-d \, g + c \, h \right)} \Big] \Bigg/ \left(\sqrt{-\frac{-d \, g + c \, h}{h}} \, \sqrt{\left(f \, h + \frac{d^2 \, e \, g}{\left(c + d \, x \right)^2} - \frac{c \, d \, e \, h}{\left(c + d \, x \right)^2} + \frac{c^2 \, f \, h}{\left(c + d \, x \right)^2} + \frac{d \, f \, g}{c + d \, x} + \frac{d \, e \, h}{c + d \, x} - \frac{2 \, c \, f \, h}{c + d \, x} \right) \Bigg] - \\ & \left[i \, a \, d \, \sqrt{1 - \frac{-d \, e + c \, f}{f \left(c + d \, x \right)}} \, \sqrt{1 - \frac{-d \, g + c \, h}{h \left(c + d \, x \right)}} \, EllipticPi \Big[\frac{\left(b \, c - a \, d \right) \, h}{b \left(-d \, g + c \, h \right)}, \, i \, ArcSinh \Big[-\frac{\sqrt{-\frac{-d \, g + c \, h}{h}}}{\sqrt{c + d \, x}} \Big], \, \frac{\left(-d \, e + c \, f \right) \, h}{f \left(-d \, g + c \, h \right)} \Bigg] \Bigg/ \left[b \, \sqrt{-\frac{-d \, g + c \, h}{h}} \, \sqrt{\left(f \, h + \frac{d^2 \, e \, g}{\left(c + d \, x \right)^2} - \frac{c \, d \, e \, h}{\left(c + d \, x \right)^2}} \right], \, \frac{\left(-d \, e + c \, f \right) \, h}{\left(c + d \, x \right)^2} - \frac{c \, d \, g \, h}{\left(c + d \, x \right)} \Bigg] \Bigg\} + \\ & \frac{1}{\left(b \, c - a \, d \right)^3} \, a \, b^2 \, c \, C \, d^2 \, f \, g \, \Bigg[i \, c \, \sqrt{1 - \frac{-d \, e + c \, f}{f \left(c + d \, x \right)}} \, \sqrt{1 - \frac{-d \, g + c \, h}{h \left(c + d \, x \right)}} \Bigg] \Bigg/ \\ & \frac{1}{\left(b \, c - a \, d \right)^3} \, a \, b^2 \, c \, C \, d^2 \, f \, g \, \Bigg[i \, c \, \sqrt{1 - \frac{-d \, e + c \, f}{f \left(c + d \, x \right)}} \, \sqrt{1 - \frac{-d \, g + c \, h}{h \left(c + d \, x \right)}} \Bigg] \Bigg/ \\ & \frac{1}{\left(b \, c - a \, d \right)^3} \, a \, b^2 \, c \, C \, d^2 \, f \, g \, \Bigg[i \, c \, \sqrt{1 - \frac{-d \, e + c \, f}{f \left(c + d \, x \right)}} \, \sqrt{1 - \frac{-d \, g + c \, h}{h \left(c + d \, x \right)}} \Bigg] \Bigg/ \\ & \frac{1}{\left(b \, c - a \, d \right)^3} \, a \, b^2 \, c \, C \, d^2 \, f \, g \, \Bigg[i \, c \, \sqrt{1 - \frac{-d \, e + c \, f}{f \left(c + d \, x \right)}} \, \sqrt{1 - \frac{-d \, g + c \, h}{h \left(c + d \, x \right)}} \Bigg] \Bigg/ \Big[\sqrt{1 - \frac{-d \, g + c \, h}{h \left(c + d \, x \right)^2}} + \frac{c^2 \, f \, h}{f \left(-d \, g + c \, h \right)} \Big] \Bigg/ \Big[\sqrt{1 - \frac{-d \, g + c \, h}{h \left(c + d \, x \right)^2}} + \frac{c^2 \, f \, h}{\left(c + d \, x \right)^2} + \frac{c^2 \, f \, h}{\left(c + d \, x \right)^2} + \frac{c^2 \, f \, h}{\left(c + d \, x \right)^2} + \frac{c^2 \, f \, h}{\left(c + d \, x \right)^2} + \frac{c^2 \, f \, h}{\left(c + d \, x \right)^2} + \frac{c^2 \, f \, h}{\left(c + d \, x \right)^2} + \frac{c^2 \, f \, h}{\left(c + d \, x \right)^2} + \frac{c^2 \, f \, h}{\left(c + d \, x \right)^2} + \frac{c^2 \, f \, h}{\left(c + d \, x \right)^$$

$$\begin{split} & \text{EllipticPi}\Big[\frac{\left(b\,c-a\,d\right)\,h}{b\left(-d\,g+c\,h\right)},\,i\,\text{ArcSinh}\Big[\frac{\sqrt{\frac{-d\,g+c\,h}{h}}}{\sqrt{c+d\,x}}\Big],\,\frac{\left(-d\,e+c\,f\right)\,h}{f\left(-d\,g+c\,h\right)}\Big] \bigg/\\ & \left[b\,\sqrt{-\frac{-d\,g+c\,h}{h}}\,\sqrt{\left(f\,h+\frac{d^2\,e\,g}{\left(c+d\,x\right)^2}-\frac{c\,d\,f\,g}{\left(c+d\,x\right)^2}-\frac{c\,d\,e\,h}{\left(c+d\,x\right)^2}+\frac{d\,f\,g}{\left(c+d\,x\right)^2}+\frac{d\,f\,g}{c+d\,x}+\frac{d\,e\,h}{c+d\,x}-\frac{2\,c\,f\,h}{c+d\,x}\right)\right] + \frac{1}{\left(b\,c-a\,d\right)^2} \\ & b^2\,c\,C\,d\,f\,g\left[\left(i\,c\,\sqrt{1-\frac{-d\,e+c\,f}{f\left(c+d\,x\right)}}\,\sqrt{1-\frac{-d\,g+c\,h}{h\left(c+d\,x\right)}}\,\,EllipticPi\Big[\frac{\left(b\,c-a\,d\right)\,h}{b\left(-d\,g+c\,h\right)},\\ & i\,Arc\,Sinh\Big[\frac{\sqrt{-\frac{-d\,g+c\,h}{f\left(c+d\,x\right)}}}{\sqrt{c+d\,x}}\Big],\,\frac{\left(-d\,e+c\,f\right)\,h}{f\left(-d\,g+c\,h\right)}\Big] \right] / \left(\sqrt{-\frac{-d\,g+c\,h}{h}}\,\,\sqrt{\left(f\,h+\frac{d\,e\,h}{c+d\,x}-\frac{2\,c\,f\,h}{c+d\,x}+\frac{d\,f\,g}{c+d\,x}+\frac{d\,e\,h}{c+d\,x}-\frac{2\,c\,f\,h}{c+d\,x}}\right) \right] \\ & \left[i\,a\,d\,\sqrt{1-\frac{-d\,e+c\,f}{f\left(c+d\,x\right)}}\,\,\sqrt{1-\frac{-d\,g+c\,h}{h\left(c+d\,x\right)}}\,\,EllipticPi\Big[\frac{\left(b\,c-a\,d\right)\,h}{b\left(-d\,g+c\,h\right)},\,i\,Arc\,Sinh\Big[} \right. \\ & \frac{\sqrt{-\frac{-d\,g+c\,h}{h}}}{\sqrt{c+d\,x}}\Big],\,\frac{\left(-d\,e+c\,f\right)\,h}{f\left(-d\,g+c\,h\right)}\Big] / \left(b\,\sqrt{-\frac{-d\,g+c\,h}{h}}\,\,\sqrt{\left(f\,h+\frac{d^2\,e\,g}{\left(c+d\,x\right)^2}-\frac{c\,d\,e\,h}{\left(c+d\,x\right)^2}+\frac{d\,f\,g}{c+d\,x}+\frac{d\,e\,h}{c+d\,x}-\frac{2\,c\,f\,h}{c+d\,x}}\right)\Big] - \\ & \frac{c\,d\,f\,g}{\left(c+d\,x\right)^2}-\frac{c\,d\,e\,h}{\left(c+d\,x\right)^2}+\frac{c^2\,f\,h}{\left(c+d\,x\right)^2}+\frac{d\,f\,g}{c+d\,x}+\frac{d\,e\,h}{c+d\,x}-\frac{2\,c\,f\,h}{c+d\,x}\Big)\Big] - \\ & \frac{c\,d\,f\,g}{\left(c+d\,x\right)^2}-\frac{c\,d\,e\,h}{\left(c+d\,x\right)^2}+\frac{c^2\,f\,h}{\left(c+d\,x\right)^2}+\frac{c^2\,f\,h}{\left(c+d\,x\right)^2}+\frac{c^2\,f\,h}{c+d\,x}-\frac{c^2\,f\,h}{c+d\,x}-\frac{c^2\,f\,h}{c+d\,x}\Big]$$

$$\begin{split} \frac{1}{\left(b\,c-a\,d\right)^3} b^3\,c^2\,C\,d\,e\,h\, \left[& i\,c\,\sqrt{1-\frac{-d\,e+c\,f}{f\,\left(c+d\,x\right)}}\,\,\sqrt{1-\frac{-d\,g+c\,h}{h\,\left(c+d\,x\right)}}\,\, EllipticPi\big[\\ & \frac{\left(b\,c-a\,d\right)\,h}{b\,\left(-d\,g+c\,h\right)},\, i\,ArcSinh\big[\,\frac{\sqrt{-\frac{-d\,g+c\,h}{h}}}{\sqrt{c+d\,x}}\big],\, \frac{\left(-d\,e+c\,f\right)\,h}{f\,\left(-d\,g+c\,h\right)}\big] \right] \\ & \left[\sqrt{-\frac{-d\,g+c\,h}{h}}\,\,\sqrt{\left[f\,h+\frac{d^2\,e\,g}{\left(c+d\,x\right)^2}-\frac{c\,d\,f\,g}{\left(c+d\,x\right)^2}-\frac{c\,d\,e\,h}{\left(c+d\,x\right)^2}+\frac{c^2\,f\,h}{\left(c+d\,x\right)^2}+\frac{d\,g\,h}{c+d\,x}-\frac{2\,c\,f\,h}{c+d\,x}\right) \right] - \left[i\,a\,d\,\sqrt{1-\frac{-d\,e+c\,f}{f\,\left(c+d\,x\right)}}\,\,\sqrt{1-\frac{-d\,g+c\,h}{h\,\left(c+d\,x\right)}} \right] \\ & EllipticPi\Big[\,\frac{\left(b\,c-a\,d\right)\,h}{b\,\left(-d\,g+c\,h\right)}\,,\, i\,ArcSinh\Big[\,\frac{\sqrt{-\frac{-d\,g+c\,h}{f\,\left(c+d\,x\right)}}}{\sqrt{c+d\,x}}\,\Big]\,,\, \frac{\left(-d\,e+c\,f\right)\,h}{f\,\left(-d\,g+c\,h\right)} \Big] \right] \\ & \left[b\,\sqrt{-\frac{-d\,g+c\,h}{h}}\,\,\sqrt{\left[f\,h+\frac{d^2\,e\,g}{\left(c+d\,x\right)^2}-\frac{c\,d\,f\,g}{\left(c+d\,x\right)^2}-\frac{c\,d\,e\,h}{\left(c+d\,x\right)^2}+\frac{c\,d\,h}{\left(c+d\,x\right)^2}+\frac{c^2\,f\,h}{\left(c+d\,x\right)^2}+\frac{d\,f\,g}{c+d\,x}+\frac{d\,e\,h}{c+d\,x}-\frac{2\,c\,f\,h}{c+d\,x} \right] \right] \\ & a\,b^2\,c\,C\,d^2\,e\,h\, \left[\left[i\,c\,\sqrt{1-\frac{-d\,e+c\,f}{f\,\left(c+d\,x\right)}}\,\,\sqrt{1-\frac{-d\,g+c\,h}{h\,\left(c+d\,x\right)}}\,\,EllipticPi\,\Big[\,\frac{\left(b\,c-a\,d\right)\,h}{b\,\left(-d\,g+c\,h\right)}\,,\, \frac{i\,ArcSinh}{\sqrt{c+d\,x}}\,\Big]\,,\, \frac{\left(-d\,e+c\,f\right)\,h}{f\,\left(-d\,g+c\,h\right)} \right] \right] \\ & i\,ArcSinh\,\Big[\,\frac{\sqrt{-\frac{-d\,g+c\,h}{h\,\left(c+d\,x\right)}}}{\sqrt{c+d\,x}}\,\Big]\,,\, \frac{\left(-d\,e+c\,f\right)\,h}{f\,\left(-d\,g+c\,h\right)}\,\Big] \right] \Big/\,\left[\sqrt{-\frac{-d\,g+c\,h}{h}}\,\,\sqrt{\left(f\,h+\frac{d\,g+c\,h}{h\,\left(c+d\,x\right)}\right)}\,,\, \frac{\left(-d\,e+c\,f\right)\,h}{h\,\left(c+d\,x\right)}\,\Big] \Big/\,\left[\sqrt{-\frac{-d\,g+c\,h}{h\,\left(c+d\,x\right)}}\,\,\sqrt{\left(f\,h+\frac{d\,g+c\,h}{h\,\left(c+d\,x\right)}\right)}\,\Big] \Big/\,\left[\sqrt{-\frac{-d\,g+c\,h}{h\,\left(c+d\,x\right)}}\,\sqrt{\left(f$$

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

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

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

$$\left(b\sqrt{-\frac{-dg+ch}{h}} \ \sqrt{\left(fh + \frac{d^2eg}{\left(c+dx\right)^2} - \frac{cdfg}{\left(c+dx\right)^2} - \frac{cdeh}{\left(c+dx\right)^2} + \frac{c^2fh}{\left(c+dx\right)^2} + \frac{dfg}{\left(c+dx\right)^2} + \frac{deh}{c+dx} + \frac{2cfh}{c+dx}\right)\right) + \frac{1}{\left(bc-ad\right)^3}$$

$$b^3c^3Cfh \left(\left[ic\sqrt{1 - \frac{-de+cf}{f\left(c+dx\right)}} \ \sqrt{1 - \frac{-dg+ch}{h}\left(c+dx\right)} \ EllipticPi\left[\frac{\left(bc-ad\right)h}{b\left(-dg+ch\right)}\right] \right) + \frac{1}{\left(bc-ad\right)^3} \right)$$

$$iArcSinh\left[\frac{\sqrt{-\frac{-dg+ch}{h}}}{\sqrt{c+dx}}\right], \frac{\left(-de+cf\right)h}{f\left(-dg+ch\right)}\right] / \left(\sqrt{-\frac{-dg+ch}{h}} \ \sqrt{\left(fh+\frac{deh}{c+dx} - \frac{2cfh}{c+dx}\right)} \right)$$

$$\left[iad\sqrt{1 - \frac{-de+cf}{f\left(c+dx\right)}} \ \sqrt{1 - \frac{-dg+ch}{h\left(c+dx\right)}} \ EllipticPi\left[\frac{\left(bc-ad\right)h}{b\left(-dg+ch\right)}\right] + \frac{arcSinh}{\left(c+dx\right)^2} \right]$$

$$\frac{\sqrt{-\frac{-dg+ch}{h}}}{\sqrt{c+dx}} \right], \frac{\left(-de+cf\right)h}{\left(-dg+ch\right)} \right] / \left[b\sqrt{-\frac{-dg+ch}{h}} \ \sqrt{\left(fh+\frac{d^2eg}{\left(c+dx\right)^2} - \frac{cdeh}{\left(c+dx\right)^2} + \frac{c^2fh}{c+dx}} + \frac{deh}{c+dx} - \frac{2cfh}{\left(c+dx\right)^2} - \frac{cdfg}{\left(c+dx\right)^2} - \frac{cdeh}{\left(c+dx\right)^2} + \frac{c^2fh}{\left(c+dx\right)^2} + \frac{dfg}{c+dx} + \frac{deh}{c+dx} - \frac{2cfh}{c+dx} \right) \right]$$

$$\frac{1}{\left(bc-ad\right)^3} ab^2c^2Cdfh \left(ic\sqrt{1 - \frac{-de+cf}{f\left(c+dx\right)}} \ \sqrt{1 - \frac{-dg+ch}{h\left(c+dx\right)}} \right)$$

$$\frac{1}{\left(bc-ad\right)^3} ab^2c^2Cdfh \left(ic\sqrt{1 - \frac{-de+cf}{f\left(c+dx\right)}} \ \sqrt{1 - \frac{-dg+ch}{h\left(c+dx\right)}} \right)$$

$$\begin{split} & \text{EllipticPi}\Big[\frac{\left\langle b\,c-a\,d\right\rangle\,h}{b\,\left(-d\,g+c\,h\right)}\text{, i}\,\text{ArcSinh}\Big[\frac{\sqrt{\frac{-d\,g+c\,h}{h}}}{\sqrt{c+d\,x}}\Big]\text{, }\frac{\left(-d\,e+c\,f\right)\,h}{f\,\left(-d\,g+c\,h\right)}\Big] \bigg/\\ & \left[\sqrt{-\frac{-d\,g+c\,h}{h}}\,\sqrt{\left(f\,h+\frac{d^2\,e\,g}{\left(c+d\,x\right)^2}-\frac{c\,d\,f\,g}{\left(c+d\,x\right)^2}-\frac{c\,d\,e\,h}{\left(c+d\,x\right)^2}+\frac{c^2\,f\,h}{\left(c+d\,x\right)^2}+\frac{d\,g\,g}{\left(c+d\,x\right)^2}+\frac{d\,g\,g}{\left(c+d\,x\right)^2}\right]}\right] \\ & = \frac{d\,f\,g}{c+d\,x}+\frac{d\,e\,h}{c+d\,x}-\frac{2\,c\,f\,h}{c\,c+d\,x}\bigg) - \left[i\,a\,d\,\sqrt{1-\frac{-d\,e+c\,f}{f\,\left(c+d\,x\right)}}\,\sqrt{1-\frac{-d\,g+c\,h}{h\,\left(c+d\,x\right)}}\right]} \\ & = \frac{1}{b\,\left(-d\,g+c\,h\right)},\,\,\text{i}\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{d\,g+c\,h}{f\,\left(c+d\,x\right)}}}{\sqrt{c+d\,x}}\Big]\text{, }\frac{\left(-d\,e+c\,f\right)\,h}{f\,\left(-d\,g+c\,h\right)}\Big] \bigg/\\ & = \frac{c^2\,f\,h}{\left(c+d\,x\right)^2}+\frac{d\,f\,g}{c+d\,x}+\frac{d\,e\,h}{c+d\,x}-\frac{2\,c\,f\,h}{c+d\,x}\bigg) - \frac{1}{\left(b\,c-a\,d\right)^2} \\ & = \frac{c^2\,f\,h}{\left(c+d\,x\right)^2}+\frac{d\,f\,g}{c+d\,x}+\frac{d\,e\,h}{c+d\,x}-\frac{2\,c\,f\,h}{h\,\left(c+d\,x\right)}\,\,\text{EllipticPi}\Big[\frac{\left(b\,c-a\,d\right)\,h}{b\,\left(-d\,g+c\,h\right)}\text{,}\\ & = i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-d\,g+c\,h}{f\,\left(c+d\,x\right)}}}{\sqrt{c+d\,x}}\Big],\,\,\frac{\left(-d\,e+c\,f\right)\,h}{f\,\left(-d\,g+c\,h\right)}\Big] \bigg/\left(\sqrt{-\frac{-d\,g+c\,h}{h}}\,\sqrt{\left(f\,h+\frac{d\,g}{c+d\,x}\right)^2}+\frac{d\,f\,g}{c+d\,x}+\frac{d\,e\,h}{c+d\,x}-\frac{2\,c\,f\,h}{c+d\,x}\right)\bigg] - \frac{d^2\,e\,g}{\left(c+d\,x\right)^2}-\frac{c\,d\,e\,h}{\left(c+d\,x\right)^2}+\frac{c^2\,f\,h}{\left(c+d\,x\right)^2}+\frac{d\,f\,g}{c+d\,x}+\frac{d\,e\,h}{c+d\,x}-\frac{2\,c\,f\,h}{c+d\,x}\bigg)\bigg] - \frac{d^2\,e\,g}{\left(c+d\,x\right)^2}-\frac{c\,d\,e\,h}{\left(c+d\,x\right)^2}+\frac{d\,f\,g}{\left(c+d\,x\right)^2}+\frac{d\,e\,h}{c+d\,x}-\frac{2\,c\,f\,h}{c+d\,x}\bigg)\bigg]$$

$$\begin{bmatrix} i \, a \, d \, \sqrt{1 - \frac{-d \, e + c \, f}{f \, \left(c + d \, x\right)}} \, \sqrt{1 - \frac{-d \, g + c \, h}{h \, \left(c + d \, x\right)}} \, & \text{EllipticPi} \big[\frac{\left(b \, c - a \, d\right) \, h}{b \, \left(-d \, g + c \, h\right)} \, , \, i \, \text{ArcSinh} \big[\frac{\sqrt{-d \, g + c \, h}}{b \, \left(-d \, g + c \, h\right)} \big] \, / \, \left[b \, \sqrt{-\frac{-d \, g + c \, h}{h}} \, \sqrt{\left[f \, h + \frac{d^2 \, e \, g}{\left(c + d \, x\right)^2} - \frac{c \, d \, e \, h}{\left(c + d \, x\right)^2} + \frac{c^2 \, f \, h}{\left(c + d \, x\right)^2} + \frac{d \, f \, g}{c + d \, x} + \frac{d \, e \, h}{c + d \, x} - \frac{2 \, c \, f \, h}{c + d \, x} \right] \right] -$$

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

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

$$\begin{split} \frac{c^2 \, fh}{\left(c + dx\right)^2} + \frac{d \, fg}{c + dx} + \frac{d \, eh}{c + dx} - \frac{2 \, c \, fh}{c + dx} \bigg) \bigg] + \frac{1}{b \, c - a \, d} \\ b \, c \, C \, fh \left[\left[\dot{c} \, \sqrt{1 - \frac{-d \, e + c \, f}{f \, \left(c + dx\right)}} \, \sqrt{1 - \frac{-d \, g + c \, h}{h \, \left(c + dx\right)}} \, EllipticPi \left[\frac{\left(b \, c - a \, d\right) \, h}{b \, \left(-d \, g + c \, h\right)} \right] \right] \\ & i \, Arc \, Sinh \left[\frac{\sqrt{-\frac{-d \, g \, c \, fh}{h \, \left(c + dx\right)}}}{\sqrt{c + dx}} \right], \, \frac{\left(-d \, e + c \, f\right) \, h}{f \, \left(-d \, g + c \, h\right)} \bigg] \Bigg/ \left(\sqrt{-\frac{-d \, g + c \, h}{h}} \, \sqrt{\left(f \, h + \frac{d \, eh}{h \, \left(c + dx\right)^2} - \frac{2 \, c \, fh}{\left(c + dx\right)^2} + \frac{c^2 \, fh}{\left(c + dx\right)^2} + \frac{d \, fg}{c + dx} + \frac{d \, eh}{c + dx} - \frac{2 \, c \, fh}{c + dx} \right) \right] \\ & \left[i \, ad \, \sqrt{1 - \frac{-d \, e + c \, f}{f \, \left(c + dx\right)^2}} \, \sqrt{1 - \frac{-d \, g + c \, h}{h \, \left(c + dx\right)}} \, EllipticPi \left[\frac{\left(b \, c - a \, d\right) \, h}{b \, \left(-d \, g + c \, h\right)} \, , \, i \, Arc \, Sinh \left[\frac{\sqrt{-\frac{-d \, g \, c \, h}{f \, \left(c + dx\right)^2}} + \frac{c^2 \, fh}{\left(c + dx\right)^2} + \frac{d \, fg}{c + dx} + \frac{d \, eh}{c + dx} - \frac{2 \, c \, fh}{c + dx} \right) \right] \\ & - \frac{c \, d \, fg}{\left(c + dx\right)^2} - \frac{c \, d \, eh}{\left(c + dx\right)^2} + \frac{c^2 \, fh}{\left(c + dx\right)^2} + \frac{d \, fg}{c + dx} + \frac{d \, eh}{c + dx} - \frac{2 \, c \, fh}{c + dx} \right) \right] \\ & + \frac{1}{b \, c - a \, d} \\ & - \frac{c \, d \, fh}{h \, \left(c + dx\right)^2} + \frac{c^2 \, fh}{\left(c + dx\right)^2} + \frac{d \, fg}{c + dx} + \frac{d \, eh}{c + dx} - \frac{2 \, c \, fh}{c + dx} \right) \right] \\ & + \frac{1}{b \, c - a \, d} \\ & - \frac{c \, d \, fh}{h \, \left(c + dx\right)^2} + \frac{c^2 \, fh}{\left(c + dx\right)^2} + \frac{d \, fg}{c + dx} + \frac{d \, eh}{c + dx} - \frac{2 \, c \, fh}{c + dx} \right) \right] \\ & + \frac{1}{b \, c - a \, d} \\ & - \frac{c \, d \, fh}{h \, \left(c + dx\right)^2} + \frac{c^2 \, fh}{\left(c + dx\right)^2} + \frac{d \, fg}{c + dx} + \frac{d \, eh}{c + dx} - \frac{2 \, c \, fh}{c + dx} \right) \right] \\ & + \frac{1}{b \, c - a \, d} \\ & - \frac{c \, d \, fh}{h \, \left(c + dx\right)^2} + \frac{c^2 \, fh}{\left(c + dx\right)^2} + \frac{d \, fg}{c + dx} + \frac{d \, fh}{c + dx} - \frac{2 \, c \, fh}{c + dx} \right) \right]$$

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

Problem 30: Result unnecessarily involves complex numbers and more than twice size of optimal antiderivative.

$$\int \frac{A+C x^2}{(a+bx)^2 \sqrt{c+dx} \sqrt{e+fx} \sqrt{g+hx}} dx$$

Optimal (type 4, 738 leaves, 12 steps):

$$\begin{split} & - \frac{\left(A \, b^2 + a^2 \, C \right) \, \sqrt{c + d \, x} \, \sqrt{e + f \, x} \, \sqrt{g + h \, x}}{\left(b \, c - a \, d \right) \, \left(b \, e - a \, f \right) \, \left(b \, g - a \, h \right) \, \left(a + b \, x \right)} + \left(\left(A \, b + \frac{a^2 \, C}{b} \right) \, \sqrt{f} \, \sqrt{-d \, e + c \, f}} \right. \\ & \sqrt{\frac{d \, \left(e + f \, x \right)}{d \, e - c \, f}} \, \sqrt{g + h \, x} \, \, EllipticE \left[ArcSin \left[\frac{\sqrt{f} \, \sqrt{c + d \, x}}{\sqrt{-d \, e + c \, f}} \right], \, \frac{\left(d \, e - c \, f \right) \, h}{f \, \left(d \, g - c \, h \right)} \right] \right/ \\ & \left(\left(b \, c - a \, d \right) \, \left(b \, e - a \, f \right) \, \left(b \, g - a \, h \right) \, \sqrt{e + f \, x} \, \sqrt{\frac{d \, \left(g + h \, x \right)}{d \, g - c \, h}} \right. \right) + \\ & \sqrt{-d \, e + c \, f} \, \left(a^2 \, C \, d \, f - 2 \, a \, b \, C \, \left(d \, e + c \, f \right) + b^2 \, \left(2 \, c \, C \, e - A \, d \, f \right) \right) \sqrt{\frac{d \, \left(e + f \, x \right)}{d \, e - c \, f}} \\ & \sqrt{\frac{d \, \left(g + h \, x \right)}{d \, g - c \, h}} \, \, EllipticF \left[ArcSin \left[\frac{\sqrt{f} \, \sqrt{c + d \, x}}{\sqrt{-d \, e + c \, f}} \right], \, \frac{\left(d \, e - c \, f \right) \, h}{f \, \left(d \, g - c \, h \right)} \right] \right/ \\ & \left(b^2 \, d \, \left(b \, c - a \, d \right) \, \sqrt{f} \, \left(b \, e - a \, f \right) \, \sqrt{e + f \, x} \, \sqrt{g + h \, x} \right) - \\ & \left(\sqrt{-d \, e + c \, f} \, \left(a^4 \, C \, d \, f \, h - A \, b^4 \, \left(d \, e \, g + c \, f \, g + c \, e \, h \right) - 2 \, a^3 \, b \, C \, \left(d \, f \, g + d \, e \, h + c \, f \, h \right) - 2 \, a \, b^3 \right) \right. \\ & \left. \left(2 \, c \, C \, e \, g - A \, d \, f \, h - A \, c \, f \, h \right) - 3 \, a^2 \, b^2 \, \left(A \, d \, f \, h - C \, \left(d \, e \, g + c \, f \, g + c \, e \, h \right) \right) \right) \sqrt{\frac{d \, \left(e + f \, x \right)}{d \, e - c \, f}} \\ & \sqrt{\frac{d \, \left(g + h \, x \right)}{d \, g - c \, h}} \, \, EllipticPi \left[- \frac{b \, \left(d \, e - c \, f \right)}{\left(b \, c - a \, d \right) \, f}, \, ArcSin \left[\frac{\sqrt{f} \, \sqrt{c + d \, x}}{\sqrt{-d \, e + c \, f}} \right], \, \frac{\left(d \, e - c \, f \right) \, h}{f \, \left(d \, g - c \, h \right)} \right] \right) / \right. \\ & \left(b^2 \, \left(b \, c - a \, d \right)^2 \, \sqrt{f} \, \left(b \, e - a \, f \right) \, \left(b \, g - a \, h \right) \, \sqrt{e + f \, x} \, \sqrt{g + h \, x} \right) \right. \\ & \left. \left(b^2 \, \left(b \, c - a \, d \right)^2 \, \sqrt{f} \, \left(b \, e - a \, f \right) \, \left(b \, g - a \, f \right) \, \left(b \, g - a \, f \right) \, \left(a \, f \right) \, \right) \right. \right. \right. \right.$$

Result (type 4, 17743 leaves):

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

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

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

$$\sqrt{\left(fh + \frac{d^2eg}{\left(c + dx\right)^2} - \frac{cdfg}{\left(c + dx\right)^2} - \frac{cdeh}{\left(c + dx\right)^2} + \frac{c^2fh}{\left(c + dx\right)^2} + \frac{dfg}{c + dx} + \frac{deh}{c + dx} - \frac{2cfh}{c + dx} \right) }$$

$$- \left[\left(\left(bc - ad \right) \left(2b^2Ceg^2 - 2abCfg^2 + Ab^2fgh + a^2Cfgh + Ab^2eh^2 - a^2Ceh^2 - 2aAbfh^2 \right) \right) / \left[b \left(bg - ah \right) \sqrt{f + \frac{de}{c + dx}} - \frac{cf}{c + dx} \sqrt{h + \frac{dg}{c + dx}} - \frac{ch}{c + dx} \right) \right] -$$

$$- \frac{\left(Ab^2 + a^2C \right) \left(de - cf \right) \sqrt{h + \frac{dg}{c + dx}} - \frac{cf}{c + dx} - \frac{c}{c + dx} }{b \sqrt{f + \frac{de}{c + dx}} - \frac{cf}{c + dx}} - \left(\left(-4ab^3cCeg - Ab^4deg + 3a^2b^2Cdeg - b \sqrt{f + \frac{de}{c + dx}} - \frac{cf}{c + dx} \right) \right) -$$

$$- \frac{\left(Ab^2 + a^2C \right) \left(de - cf \right) \sqrt{h + \frac{dg}{c + dx}} - \frac{cf}{c + dx} - \frac{c}{c + dx} - \frac{c}{c + dx} - \frac{cf}{c + dx} \right) - \left(\left(-4ab^3cCeg - Ab^4deg + 3a^2b^2Cdeg - b \sqrt{f + \frac{de}{c + dx}} - \frac{cf}{c + dx} \right) \right) -$$

$$- \frac{Ab^4cfg + 3a^2b^2cCfg + 2aAb^3dfg - 2a^3bCdfg - Ab^4ceh + 3a^2b^2cCeh + 2aAb^3deh - 2a^3bCdfh - 3a^2Ab^2dfh + a^4Cdfh \right) - \frac{cf}{c + dx} - \frac{cf}{$$

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

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

$$\label{eq:final_continuous_con$$

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

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

$$\left[i \ a^2 \ b \ C \ d^2 \ e \ g \sqrt{1 - \frac{-d \ e + c \ f}{f \left(c + d \ x\right)}} \ \sqrt{1 - \frac{-d \ g + c \ h}{h \left(c + d \ x\right)}} \ EllipticF \right]$$

$$= i \ Arc Sinh \left[\frac{\sqrt{-\frac{-d \ g + c \ h}{h}}}{\sqrt{c + d \ x}} \right], \ \frac{\left(-d \ e + c \ f\right) \ h}{f \left(-d \ g + c \ h\right)} \right] \bigg/ \left(\left(b \ c - a \ d \right)^2 \sqrt{-\frac{-d \ g + c \ h}{h}} \right)$$

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

$$\left[2 \ i \ b^2 \ c \ C \ e \ g \sqrt{1 - \frac{-d \ g + c \ h}{f \left(c + d \ x\right)}} \ \sqrt{1 - \frac{-d \ g + c \ h}{h \left(c + d \ x\right)}} \ EllipticF \right[$$

$$i \ Arc Sinh \left[\frac{\sqrt{-\frac{-d \ g + c \ h}{h}}}{\left(c + d \ x\right)^2} \right], \ \frac{\left(-d \ e + c \ f\right) \ h}{f \left(-d \ g + c \ h\right)} \right] \bigg/ \left(\left(b \ c - a \ d \right) \sqrt{-\frac{-d \ g + c \ h}{h}} \right) -$$

$$\left[2 \ i \ a \ b \ C \ d \ g \sqrt{1 - \frac{-d \ e + c \ f}{f \left(c + d \ x\right)}} \ \sqrt{1 - \frac{-d \ g + c \ h}{h \left(c + d \ x\right)}} \ EllipticF \right[$$

$$i \ Arc Sinh \left[\frac{\sqrt{-\frac{-d \ g + c \ h}{f \left(c + d \ x\right)}} \ \sqrt{1 - \frac{-d \ g + c \ h}{h \left(c + d \ x\right)}} \ EllipticF \bigg[$$

$$i \ Arc Sinh \left[\frac{\sqrt{-\frac{-d \ g + c \ h}{h}}}{\sqrt{c + d \ x}} \right], \ \frac{\left(-d \ e + c \ f\right) \ h}{f \left(-d \ g + c \ h\right)} \ \bigg] \bigg/ \left(\left(b \ c - a \ d \right) \sqrt{-\frac{-d \ g + c \ h}{h}} \right)$$

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

$$\left[\begin{array}{c} \text{i} \ A \ b^3 \ c \ d \ f \ g \ \sqrt{1 - \frac{-d \ e + c \ f}{f \ \left(c + d \ x\right)}} \ \sqrt{1 - \frac{-d \ g + c \ h}{h \ \left(c + d \ x\right)}} \ EllipticF \right[\\ \\ - \frac{-d \ g + c \ h}{h \ \left(c + d \ x\right)} \ \end{array} \right]$$

$$\ \, \text{$\dot{\mathbb{1}}$ ArcSinh} \, \Big[\, \frac{\sqrt{-\frac{-d \, g + c \, h}{h}}}{\sqrt{c + d \, x}} \Big] \, , \, \, \frac{\left(- \, d \, e + c \, f \right) \, h}{f \, \left(- \, d \, g + c \, h \right)} \Big] \, \Bigg/ \, \left(\left(b \, c - a \, d \right)^2 \, \sqrt{-\frac{-d \, g + c \, h}{h}} \right) \, .$$

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

$$\label{eq:linear_problem} \text{$\dot{1}$ ArcSinh} \Big[\, \frac{\sqrt{-\, \frac{-d\, g + c\, h}{h}}}{\sqrt{c + d\, x}} \Big] \text{, } \frac{\left(-\, d\, e + c\, f \right)\, h}{f\, \left(-\, d\, g + c\, h \right)} \Big] \, \Bigg/ \, \left(\left(b\, c - a\, d \right)^2 \, \sqrt{-\, \frac{-\, d\, g + c\, h}{h}} \right)$$

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

$$\label{eq:linear_continuity} \text{$\dot{\mathbb{1}}$ ArcSinh} \Big[\frac{\sqrt{-\frac{-d\,g+c\,h}{h}}}{\sqrt{c+d\,x}} \Big] \text{, } \frac{\left(-\,d\,e+c\,f\right)\,h}{f\,\left(-\,d\,g+c\,h\right)} \Big] \Bigg] / \left(\left(b\,c\,-\,a\,d\right)\,\sqrt{-\frac{-\,d\,g+c\,h}{h}} \right)$$

$$\sqrt{\left(f\,h\,+\,\,\frac{\,d^2\,e\,g\,-\,c\,\,d\,f\,g\,-\,c\,\,d\,e\,\,h\,+\,\,c^2\,f\,h}{\left(\,c\,+\,d\,\,x\,\right)^{\,2}}\,+\,\,\frac{\,d\,f\,g\,+\,d\,e\,\,h\,-\,2\,\,c\,\,f\,h}{\,c\,+\,d\,\,x}\,\right)\,}\right]\,\,-\,$$

$$\label{eq:continuous_section} 2 \, \, \hat{\mathbb{I}} \, \, a \, \, b \, \, c \, C \, e \, h \, \sqrt{1 - \frac{-\, d \, e \, + \, c \, \, f}{f \, \left(c \, + \, d \, x\right)}} \, \, \sqrt{1 - \frac{-\, d \, g \, + \, c \, \, h}{h \, \left(c \, + \, d \, x\right)}} \, \, \, \text{EllipticF} \Big[$$

$$\sqrt{\left(f\,h\,+\,\,\frac{\,d^{2}\,e\,g\,-\,c\,\,d\,f\,g\,-\,c\,\,d\,e\,\,h\,+\,\,c^{\,2}\,f\,h}{\,\,\left(\,c\,+\,d\,\,x\,\right)^{\,2}}\,+\,\,\frac{\,d\,f\,g\,+\,d\,e\,\,h\,-\,2\,\,c\,\,f\,h}{\,\,c\,+\,d\,\,x}\,\right)\,\,\right]\,\,-\,\,d^{2}\,g\,g\,-\,c\,\,d\,g\,-\,c\,\,d\,g\,g\,-\,c\,\,d\,g\,g\,-\,c\,\,d\,g\,g\,-\,c\,\,d\,g\,g\,-\,c\,\,d\,g\,g\,-\,c\,\,d\,g\,-\,c\,\,d\,g\,g\,-\,c\,\,d\,g\,g\,-\,c\,\,d\,g\,g\,-\,c\,\,d\,g\,g\,-\,c\,\,d\,g\,g\,-\,c\,\,d\,g\,-\,c\,\,d\,g\,g\,-\,c\,\,d\,g\,g\,-\,c\,\,d\,g\,g\,-\,c\,\,d\,g\,-\,c\,\,d\,g\,-\,c\,\,d\,g\,-\,c\,\,d\,g\,g\,-\,c\,\,d\,g\,-\,c\,\,d\,g\,-\,c\,\,d\,g\,-\,c\,\,d\,g\,-\,c\,\,d\,g\,g\,-\,c\,\,d\,g\,-\,c\,\,d\,g\,-\,c\,\,d\,g\,-\,c\,\,d\,g\,-\,c\,\,d\,g\,-\,c\,\,d\,g\,-\,c\,\,d\,g\,-\,c\,\,d\,g\,-\,c$$

$$\label{eq:linear_continuity} \dot{\mathbb{I}} \ \text{ArcSinh} \left[\frac{\sqrt{-\frac{-d\,g_{+}c\,h}{h}}}{\sqrt{c+d\,x}} \right] \text{, } \frac{\left(-\,d\,e + c\,f\right)\,h}{f\,\left(-\,d\,g + c\,h\right)} \right] \Bigg/ \left(\left(b\,c - a\,d\right)\,\sqrt{-\frac{-\,d\,g + c\,h}{h}} \right)$$

$$\sqrt{\left(f\,h\,+\,\frac{\,d^{2}\,e\,g\,-\,c\,d\,f\,g\,-\,c\,d\,e\,h\,+\,c^{2}\,f\,h}{\,\left(\,c\,+\,d\,x\,\right)^{\,2}}\,+\,\frac{\,d\,f\,g\,+\,d\,e\,h\,-\,2\,c\,f\,h}{\,c\,+\,d\,x}\,\right)\,\right]\,-\,$$

$$\sqrt{\left(f\,h\,+\,\,\frac{\,d^2\,e\,g\,-\,c\,\,d\,f\,g\,-\,c\,\,d\,e\,\,h\,+\,\,c^2\,f\,h}{\left(\,c\,+\,d\,\,x\,\right)^{\,2}}\,+\,\,\frac{\,d\,f\,g\,+\,d\,e\,\,h\,-\,2\,\,c\,\,f\,h}{\,c\,+\,d\,\,x}\,\right)\,}\right]\,\,-\,$$

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

$$i \, Arc Sinh \left[\frac{\sqrt{-\frac{-d \, g + c \, h}{h}}}{\sqrt{c + d \, x}} \right], \, \frac{\left(-d \, e + c \, f\right) \, h}{f \, \left(-d \, g + c \, h\right)} \right] \bigg/ \left(\left(b \, c - a \, d\right)^2 \, \sqrt{-\frac{-d \, g + c \, h}{h}} \right)$$

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

$$2 \, i \, Ab^2 \, c \, f \, h \, \sqrt{1 - \frac{-d \, e + c \, f}{f \, \left(c + d \, x\right)}} \, \sqrt{1 - \frac{-d \, g + c \, h}{h \, \left(c + d \, x\right)}} \, EllipticF \left[$$

$$i \, Arc Sinh \left[\frac{\sqrt{-\frac{-d \, g + c \, h}{f \, \left(c + d \, x\right)}} \, \sqrt{-\frac{-d \, g + c \, h}{f \, \left(-d \, g + c \, h\right)}} \right] \bigg/ \left(\left(b \, c - a \, d\right) \, \sqrt{-\frac{-d \, g + c \, h}{h}} \right)$$

$$\sqrt{\left(f \, h + \frac{d^2 \, e \, g - c \, d \, f \, g - c \, d \, e \, h + c^2 \, f \, h}{\left(c + d \, x\right)^2}} \, \frac{d \, f \, g + d \, e \, h - 2 \, c \, f \, h}{h \, \left(c + d \, x\right)}} \right]$$

$$= i \, Arc Sinh \left[\frac{\sqrt{-\frac{-d \, g + c \, h}{f \, \left(c + d \, x\right)}}}{\sqrt{c + d \, x}} \right], \, \frac{\left(-d \, e + c \, f\right) \, h}{h \, \left(c + d \, x\right)}} \, EllipticF \left[$$

$$i \, Arc Sinh \left[\frac{\sqrt{-\frac{-d \, g + c \, h}{f \, \left(c + d \, x\right)}}} \, \frac{\left(-d \, e + c \, f\right) \, h}{h \, \left(c + d \, x\right)}} \, + \frac{d \, f \, g + d \, e \, h - 2 \, c \, f \, h}{h \, \left(c + d \, x\right)}} \right) + \frac{1}{\left(b \, c - a \, d\right)^3}$$

$$Ab^{2}d^{2}eg\left[\left(ic\sqrt{1-\frac{-de+cf}{f\left(c+dx\right)}}\sqrt{1-\frac{-dg+ch}{h\left(c+dx\right)}}\right.EllipticPi\left[\frac{\left(bc-ad\right)h}{b\left(-dg+ch\right)}\right]\right.$$

$$iArcSinh\left[\frac{\sqrt{-\frac{-dg+ch}{h}}}{\sqrt{c+dx}}\right],\frac{\left(-de+cf\right)h}{f\left(-dg+ch\right)}\right]\left/\sqrt{\sqrt{-\frac{-dg+ch}{h}}}\sqrt{\left[fh+\frac{d^{2}eg}{\left(c+dx\right)^{2}}-\frac{cdfg}{\left(c+dx\right)^{2}}-\frac{cdeh}{\left(c+dx\right)^{2}}+\frac{c^{2}fh}{\left(c+dx\right)^{2}}-\frac{dfg}{c+dx}+\frac{deh}{c+dx}-\frac{2cfh}{c+dx}\right)\right]-\left[iad\sqrt{1-\frac{-de+cf}{f\left(c+dx\right)}}\sqrt{1-\frac{-dg+ch}{h\left(c+dx\right)}}\right.EllipticPi\left[\frac{\left(bc-ad\right)h}{b\left(-dg+ch\right)}\right],iArcSinh\left[\frac{\sqrt{-\frac{-dg+ch}{h}}}{\sqrt{c+dx}}\right],\frac{\left(-de+cf\right)h}{f\left(-dg+ch\right)}\right]\left/\sqrt{b\sqrt{-\frac{-dg+ch}{h}}}\sqrt{\left[fh+\frac{d^{2}eg}{\left(c+dx\right)^{2}}-\frac{cdeh}{\left(c+dx\right)^{2}}+\frac{c^{2}fh}{\left(c+dx\right)^{2}}+\frac{dfg}{c+dx}+\frac{deh}{c+dx}-\frac{2cfh}{c+dx}\right)\right]+\frac{1}{\left(bc-ad\right)h},$$

$$a^{2}b^{2}Cd^{2}eg\left[\left(ic\sqrt{1-\frac{-de+cf}{f\left(c+dx\right)}}\sqrt{1-\frac{-dg+ch}{h\left(c+dx\right)}}\right.EllipticPi\left[\frac{\left(bc-ad\right)h}{b\left(-dg+ch\right)}\right]\right]$$

$$iArcSinh\left[\frac{\sqrt{-\frac{-dg+ch}{h}}}{\sqrt{c+dx}}\right],\frac{\left(-de+cf\right)h}{\left(-dg+ch\right)}\right]\left/\sqrt{\left(-\frac{-dg+ch}{h}}\sqrt{\left(fh+\frac{dg+ch}{h\left(c+dx\right)}\right)}\right]$$

$$iArcSinh\left[\frac{\sqrt{-\frac{-dg+ch}{h}}}{\sqrt{c+dx}}\right],\frac{\left(-de+cf\right)h}{\left(-dg+ch\right)}\right]\left/\sqrt{\left(-\frac{-dg+ch}{h}}\sqrt{\left(fh+\frac{dg+ch}{h\left(c+dx\right)}\right)}\right]\right/$$

$$iArcSinh\left[\frac{\sqrt{-\frac{-dg+ch}{h}}}{\sqrt{c+dx}}\right],\frac{\left(-de+cf\right)h}{\left(-dg+ch\right)}\right]\left/\sqrt{\left(-\frac{-dg+ch}{h\left(c+dx\right)^{2}}+\frac{dfg}{c+dx}+\frac{deh}{c+dx}-\frac{2cfh}{c+dx}}\right]-$$

$$\begin{bmatrix} i \ a \ d \sqrt{1 - \frac{-d \ e + c \ f}{f} \left(c + d \ x\right)} \ \sqrt{1 - \frac{-d \ g + c \ h}{h} \left(c + d \ x\right)} \ EllipticPi \Big[\frac{\left(b \ c - a \ d\right) \ h}{b \left(-d \ g + c \ h\right)},$$

$$i \ ArcSinh \Big[\frac{\sqrt{-\frac{-d \ g + c \ h}{h}}}{\sqrt{c + d \ x}} \Big], \frac{\left(-d \ e + c \ f\right) \ h}{f \left(-d \ g + c \ h\right)} \Big] \bigg/ \left(b \sqrt{-\frac{-d \ g + c \ h}{h}} \ \sqrt{\left(f \ h + \frac{d^2 \ e \ g}{\left(c + d \ x\right)^2} - \frac{c \ d \ e \ h}{\left(c + d \ x\right)^2} + \frac{d^2 \ g}{\left(c + d \ x\right)^2} + \frac{d \ h}{c + d \ x} + \frac{d \ e \ h}{c + d \ x} - \frac{2 \ c \ f \ h}{c + d \ x} \right) \right) +$$

$$\frac{1}{\left(b \ c - a \ d\right)^2} 2 \ b^3 \ c \ C \ e \ g \left[\left(i \ c \sqrt{1 - \frac{-d \ e + c \ f}{f \left(c + d \ x\right)^2}} \ \sqrt{1 - \frac{-d \ g + c \ h}{h \left(c + d \ x\right)}} \ EllipticPi \left[\right] \right] \right]$$

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

$$\frac{d \ f \ g}{c + d \ x} + \frac{d \ e \ h}{c + d \ x} - \frac{2 \ c \ f \ h}{c + d \ x} \right) - \left[i \ a \ d \sqrt{1 - \frac{-d \ e + c \ f}{f \left(c + d \ x\right)^2}} + \frac{c^2 \ f \ h}{\left(c + d \ x\right)} \right]$$

$$EllipticPi \left[\frac{\left(b \ c \ a \ d\right) \ h}{b \left(-d \ g + c \ h\right)}, \ i \ ArcSinh \left[\frac{\sqrt{-\frac{-d \ e + c \ f}{f \left(c + d \ x\right)^2}} - \frac{c \ d \ e \ h}{\left(c + d \ x\right)^2} + \frac{\left(-d \ e + c \ f\right) \ h}{f \left(-d \ g + c \ h\right)} \right] \right]$$

$$\left[b \sqrt{-\frac{-d \ g + c \ h}{h}} \ \sqrt{\left(f \ h + \frac{d^2 \ e \ g}{\left(c + d \ x\right)^2} - \frac{c \ d \ f \ g}{\left(c + d \ x\right)^2} - \frac{c \ d \ e \ h}{\left(c + d \ x\right)^2} + \frac{c \ d \ e \ h}{\left(c + d \ x\right)^2} + \frac{c \ d \ e \ h}{\left(c + d \ x\right)^2} + \frac{c \ d \ e \ h}{\left(c + d \ x\right)^2} + \frac{c \ d \ e \ h}{\left(c + d \ x\right)^2} + \frac{c \ d \ e \ h}{\left(c + d \ x\right)^2} + \frac{c \ d \ e \ h}{\left(c + d \ x\right)^2} + \frac{c \ d \ e \ h}{\left(c + d \ x\right)^2} + \frac{c \ d \ e \ h}{\left(c + d \ x\right)^2} + \frac{c \ d \ e \ h}{\left(c + d \ x\right)^2} + \frac{c \ d \ e \ h}{\left(c + d \ x\right)^2} + \frac{c \ d \ e \ h}{\left(c + d \ x\right)^2} + \frac{c \ d \ e \ h}{\left(c + d \ x\right)^2} + \frac{c \ d \ e \ h}{\left(c + d \ x\right)^2} + \frac{c \ d \ e \ h}{\left(c + d \ x\right)^2} + \frac{c \ d \ e \ h}{\left(c + d \ x\right)^2} + \frac{c \ d \ e \ h}{\left(c + d \ x\right)^2} + \frac{c \ d \ e \ h}{\left(c + d \ x\right)^$$

$$\frac{c^2 f h}{(c+d\,x)^2} + \frac{d\,f\,g}{c+d\,x} + \frac{d\,e\,h}{c+d\,x} - \frac{2\,c\,f\,h}{c+d\,x} \bigg) \Bigg) + \frac{1}{(b\,c-a\,d)^2}$$

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

$$\left(b\sqrt{-\frac{-dg+ch}{h}} \sqrt{\left(fh + \frac{d^2eg}{(c+dx)^2} - \frac{cdfg}{(c+dx)^2} - \frac{cdeh}{(c+dx)^2}} + \frac{d^2eg}{(c+dx)^2} + \frac{d^2eg}{(c+dx)^2} + \frac{d^2eg}{(c+dx)^2} + \frac{d^2eg}{(c+dx)^2} + \frac{d^2eg}{(c+dx)^2} \sqrt{1 - \frac{-dg+ch}{h}(c+dx)}} \right) - \frac{1}{(b\,c-ad)^3}$$

$$a^2b^2c\,C\,d\,f\,g \left(\left[i\,c\,\sqrt{1 - \frac{-de+cf}{f(c+dx)}} \,\sqrt{1 - \frac{-dg+ch}{h(c+dx)}} \, EllipticPi\left[\frac{(b\,c-ad)\,h}{b\,(-dg+ch)} , \right. \right. \right.$$

$$\left. i\,Arc\,Sinh\left[\frac{\sqrt{-\frac{-dg+ch}{h}}}{\sqrt{c+dx}} \right] , \, \frac{(-de+cf)\,h}{f(-dg+ch)} \right] \right/ \left(\sqrt{-\frac{-dg+ch}{h}} \,\sqrt{\left(fh + \frac{d^2eg}{(c+dx)^2} - \frac{cdeh}{(c+dx)^2} + \frac{c^2fh}{(c+dx)^2} + \frac{d^2eg}{c+dx} + \frac{deh}{c+dx} - \frac{2cfh}{c+dx} \right) \right] -$$

$$\left[i\,a\,d\,\sqrt{1 - \frac{-de+cf}{f(c+dx)}} \,\sqrt{1 - \frac{-dg+ch}{h(c+dx)}} \, EllipticPi\left[\frac{(b\,c-ad)\,h}{b\,(-dg+ch)} , \right. \right.$$

$$\left. i\,Arc\,Sinh\left[\frac{\sqrt{-\frac{-dg+ch}{h}}}{\sqrt{c+dx}} \right] , \, \frac{(-de+cf)\,h}{f(-dg+ch)} \right] \right/ \left(b\,\sqrt{-\frac{-dg+ch}{h}} \,\sqrt{\left(fh + \frac{d^2eg}{c+dx} - \frac{cdfg}{c+dx} - \frac{cdeh}{c+dx} + \frac{c^2fh}{c+dx} + \frac{deh}{c+dx} - \frac{2cfh}{c+dx} \right) \right) -$$

$$\left. \frac{d^2eg}{(c+dx)^2} - \frac{cdfg}{(c+dx)^2} - \frac{cdeh}{(c+dx)^2} + \frac{c^2fh}{(c+dx)^2} + \frac{dfg}{c+dx} + \frac{deh}{c+dx} - \frac{2cfh}{c+dx} \right) \right) -$$

$$\frac{d^2eg}{(c+dx)^2} - \frac{cdfg}{(c+dx)^2} - \frac{cdeh}{(c+dx)^2} + \frac{c^2fh}{(c+dx)^2} + \frac{dfg}{c+dx} + \frac{deh}{c+dx} - \frac{2cfh}{c+dx} \right) \right) -$$

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

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

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

$$\frac{1}{b\,c-a\,d}2\,a\,b\,C\,f\,g\left(\left[\dot{\mathbb{L}}\,c\,\sqrt{1-\frac{-\,d\,e+c\,f}{f\,\left(c+d\,x\right)}}\,\,\sqrt{1-\frac{-\,d\,g+c\,h}{h\,\left(c+d\,x\right)}}\,\,\,\text{EllipticPi}\left[\,\frac{\left(b\,c-a\,d\right)\,h}{b\,\left(-\,d\,g+c\,h\right)}\,,\right.\right.\right)$$

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

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

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

$$\frac{d^2\,e\,g}{\left(\,c\,+\,d\,x\,\right)^{\,2}}\,-\,\frac{c\,d\,f\,g}{\left(\,c\,+\,d\,x\,\right)^{\,2}}\,-\,\frac{c\,d\,e\,h}{\left(\,c\,+\,d\,x\,\right)^{\,2}}\,+\,\frac{c^2\,f\,h}{\left(\,c\,+\,d\,x\,\right)^{\,2}}\,+\,\frac{d\,f\,g}{c\,+\,d\,x}\,+\,\frac{d\,e\,h}{c\,+\,d\,x}\,-\,\frac{2\,c\,f\,h}{c\,+\,d\,x}\,\right)\,\Bigg]\,\,-\,\frac{d^2\,e\,g}{\left(\,c\,+\,d\,x\,\right)^{\,2}}\,+\,\frac{d\,g\,g}{\left(\,c\,+\,d\,x\,\right)^{\,2}}\,+\,\frac{d\,g\,g}{c\,+\,d\,x}\,+$$

$$\begin{split} \frac{1}{\left(b\,c-a\,d\right)^3} A\,b^{d}\,c\,d\,e\,h\, &\left[\left|i\,c\,\sqrt{1-\frac{-d\,e+c\,f}{f\,\left(c+d\,x\right)}}\,\,\sqrt{1-\frac{-d\,g+c\,h}{h\,\left(c+d\,x\right)}}\,\,EllipticPi\right] \right] \\ &\left[\frac{\left(b\,c-a\,d\right)\,h}{b\,\left(-d\,g+c\,h\right)},\,\,i\,ArcSinh\left[\frac{\sqrt{-\frac{-d\,g+c\,h}{h}}}{\sqrt{c+d\,x}}\right],\,\,\frac{\left(-d\,e+c\,f\right)\,h}{f\,\left(-d\,g+c\,h\right)}\right] \right/ \\ &\left[\sqrt{-\frac{-d\,g+c\,h}{h}}\,\,\sqrt{\left[f\,h+\frac{d^2\,e\,g}{\left(c+d\,x\right)^2}-\frac{c\,d\,f\,g}{\left(c+d\,x\right)^2}-\frac{c\,d\,e\,h}{\left(c+d\,x\right)^2}+\frac{c^2\,f\,h}{\left(c+d\,x\right)^2}+\frac{d\,g\,h}{c+d\,x}+\frac{d\,e\,h}{c+d\,x}-\frac{2\,c\,f\,h}{c+d\,x}\right] - \left[i\,a\,d\,\sqrt{1-\frac{-d\,e+c\,f}{f\,\left(c+d\,x\right)}}\,\,\sqrt{1-\frac{-d\,g+c\,h}{h\,\left(c+d\,x\right)}}\right] \right/ \\ &EllipticPi\left[\frac{\left(b\,c-a\,d\right)\,h}{b\,\left(-d\,g+c\,h\right)},\,\,i\,ArcSinh\left[\frac{\sqrt{-\frac{-d\,g+c\,h}{h}}}{\sqrt{c+d\,x}}\right],\,\,\frac{\left(-d\,e+c\,f\right)\,h}{f\,\left(-d\,g+c\,h\right)}\right] \right/ \\ &\left[b\,\sqrt{-\frac{-d\,g+c\,h}{h}}\,\,\sqrt{\left[f\,h+\frac{d^2\,e\,g}{\left(c+d\,x\right)^2}-\frac{c\,d\,f\,g}{\left(c+d\,x\right)^2}-\frac{c\,d\,e\,h}{\left(c+d\,x\right)^2}+\frac{c^2\,f\,h}{\left(c+d\,x\right)^2}+\frac{d\,f\,g}{\left(c+d\,x\right)^2}+\frac{d\,e\,h}{c+d\,x}-\frac{2\,c\,f\,h}{c+d\,x}\right] \right) - \frac{1}{\left(b\,c-a\,d\right)^3} \\ &a^2\,b^2\,c\,C\,d\,e\,h\,\left[\left[i\,c\,\sqrt{1-\frac{-d\,e+c\,f}{f\,\left(c+d\,x\right)}}\,\,\sqrt{1-\frac{-d\,g+c\,h}{h\,\left(c+d\,x\right)}}\,\,EllipticPi\left[\frac{\left(b\,c-a\,d\right)\,h}{b\,\left(-d\,g+c\,h\right)},\,\\ &i\,ArcSinh\left[\frac{\sqrt{-\frac{-d\,g+c\,h}{h}}}{\sqrt{c+d\,x}}\right],\,\,\frac{\left(-d\,e+c\,f\right)\,h}{f\,\left(-d\,g+c\,h\right)}\right] \right/ \left(\sqrt{-\frac{-d\,g+c\,h}{h}}\,\,\sqrt{\left[f\,h+\frac{d\,g+c\,h}{h\,\left(c+d\,x\right)}\right]} \right] \\ &e^{-\frac{1}{2}\,g+c\,h}} \right] + \frac{\left(-d\,g+c\,h\right)}{f\,\left(-d\,g+c\,h\right)} \right] \right] + \left(\sqrt{-\frac{-d\,g+c\,h}{h}}\,\,\sqrt{\left[f\,h+\frac{d\,g+c\,h}{h\,\left(c+d\,x\right)}\right]}} \right] \\ &e^{-\frac{1}{2}\,g+c\,h}} \left(-\frac{1}{2}\,g+c\,h}{h\,\left(c+d\,x\right)}\right) + \frac{1}{2}\,\left(-\frac{1}{2}\,g+c\,h}{h\,\left(c+d\,x\right)}\right) + \frac{1}{2}\,\left(-\frac{1}{2}\,g+c\,h$$

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

$$\left[i\,a\,d\,\sqrt{1 - \frac{-d\,e+c\,f}{f\,\left(c+d\,x\right)}}\,\,\sqrt{1 - \frac{-d\,g+c\,h}{h\,\left(c+d\,x\right)}}\,\,EllipticPi\left[\frac{\left(b\,c-a\,d\right)\,h}{b\,\left(-d\,g+c\,h\right)},\right.\right]$$

$$\left[i\,ArcSinh\left[\frac{\sqrt{-\frac{-d\,g+c\,h}{h}}}{\sqrt{c+d\,x}}\right],\,\,\frac{\left(-d\,e+c\,f\right)\,h}{f\,\left(-d\,g+c\,h\right)}\right] \middle/\left[b\,\sqrt{-\frac{-d\,g+c\,h}{h}}\,\,\sqrt{\left(f\,h+\frac{d\,e\,h}{c+d\,x} - \frac{2\,c\,f\,h}{c+d\,x}\right)}\right]\right]$$

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

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

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

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

$$i\,ArcSinh\left[\frac{\sqrt{-\frac{-d\,g + c\,h}{h\,c}}}{\sqrt{c + d\,x}} \right] , \, \frac{\left(-d\,e + c\,f\right)\,h}{f\,\left(-d\,g + c\,h\right)} \right] \bigg/ \left[\sqrt{-\frac{-d\,g + c\,h}{h}} \,\,\sqrt{\left(f\,h + \frac{d\,e\,h}{c + d\,x} - \frac{2\,c\,f\,h}{c + d\,x}\right)} \right]$$

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

$$i\,ArcSinh\left[\frac{\sqrt{-\frac{-d\,g + c\,h}{h}}}{\sqrt{c + d\,x}} \right] , \, \frac{\left(-d\,e + c\,f\right)\,h}{f\,\left(-d\,g + c\,h\right)} \right] \bigg/ \left[b\,\sqrt{-\frac{-d\,g + c\,h}{h}} \,\,\sqrt{\left(f\,h + \frac{d\,g\,g}{c + d\,x} - \frac{2\,c\,f\,h}{c + d\,x}} \right] \right]$$

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

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

$$\begin{split} & \text{EllipticPi}\Big[\frac{\left(b\,c-a\,d\right)\,h}{b\left(-d\,g+c\,h\right)},\,i\,\text{ArcSinh}\Big[\frac{\sqrt{\frac{-d\,g+c\,h}{h}}}{\sqrt{c+d\,x}}\Big],\,\frac{\left(-d\,e+c\,f\right)\,h}{f\left(-d\,g+c\,h\right)}\Big] \bigg] \\ & \left[b\,\sqrt{-\frac{-d\,g+c\,h}{h}}\,\,\sqrt{\left(f\,h+\frac{d^2\,e\,g}{\left(c+d\,x\right)^2}-\frac{c\,d\,f\,g}{\left(c+d\,x\right)^2}-\frac{c\,d\,e\,h}{\left(c+d\,x\right)^2}} + \frac{c^2\,f\,h}{\left(c+d\,x\right)^2} + \frac{d\,f\,g}{c+d\,x} + \frac{d\,e\,h}{c+d\,x} - \frac{2\,c\,f\,h}{c+d\,x}\Big] \right] + \frac{1}{\left(b\,c-a\,d\right)^3} \\ & a^2\,b^2\,c^2\,C\,f\,h \left[\left[i\,c\,\sqrt{1-\frac{-d\,e+c\,f}{f\left(c+d\,x\right)}}\,\,\sqrt{1-\frac{-d\,g+c\,h}{h\left(c+d\,x\right)}}\,\,\text{EllipticPi}\Big[\frac{\left(b\,c-a\,d\right)\,h}{b\left(-d\,g+c\,h\right)},\right. \right. \\ & \left.i\,\text{ArcSinh}\Big[\frac{\sqrt{-\frac{-d\,g+c\,h}{f\left(c+d\,x\right)}}}{\sqrt{c+d\,x}}\Big],\,\,\frac{\left(-d\,e+c\,f\right)\,h}{\left(c+d\,x\right)^2} + \frac{c^2\,f\,h}{\left(c+d\,x\right)^2} + \frac{d\,f\,g}{c+d\,x} + \frac{d\,e\,h}{c+d\,x} - \frac{2\,c\,f\,h}{c+d\,x}\Big] - \frac{i\,d\,g+c\,h}{c+d\,x} - \frac{i\,d\,g+c\,h}{c+d\,x} - \frac{i\,d\,g+c\,h}{c+d\,x} + \frac{i\,d\,g+c\,h}{c+d\,x} - \frac{i\,d\,g+c\,h}{c+d\,x} -$$

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

$$\frac{\left(\text{bc}-\text{ad}\right)\text{ h}}{\text{b}\left(-\text{dg}+\text{ch}\right)}\text{, i ArcSinh}\Big[\frac{\sqrt{-\frac{-\text{dg}+\text{ch}}{\text{h}}}}{\sqrt{\text{c}+\text{dx}}}\Big]\text{, }\frac{\left(-\text{de}+\text{cf}\right)\text{ h}}{\text{f}\left(-\text{dg}+\text{ch}\right)}\Big] \Bigg/$$

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

$$\frac{d\,f\,g}{c\,+\,d\,x}\,+\,\frac{d\,e\,h}{c\,+\,d\,x}\,-\,\frac{2\,c\,f\,h}{c\,+\,d\,x}\Bigg)\Bigg]\,-\,\left[\dot{\mathbb{1}}\,\,a\,d\,\sqrt{\,1\,-\,\frac{-\,d\,e\,+\,c\,f}{f\,\left(\,c\,+\,d\,x\,\right)}}\,\,\sqrt{\,1\,-\,\frac{-\,d\,g\,+\,c\,h}{h\,\left(\,c\,+\,d\,x\,\right)}}\right]$$

$$\label{eq:energy_energy_energy_energy} \text{EllipticPi} \Big[\frac{\left(b \ c - a \ d \right) \ h}{b \ \left(- d \ g + c \ h \right)} \text{, i ArcSinh} \Big[\frac{\sqrt{-\frac{-d \ g + c \ h}{h}}}{\sqrt{c + d \ x}} \Big] \text{, } \frac{\left(- d \ e + c \ f \right) \ h}{f \ \left(- d \ g + c \ h \right)} \Big] \Bigg]$$

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

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

$$2\,\mathsf{a}\,\mathsf{A}\,\mathsf{b}^2\,\mathsf{d}\,\mathsf{f}\,\mathsf{h}\,\left(\left[\begin{smallmatrix} i&c&\sqrt{1-\frac{-\,\mathsf{d}\,\mathsf{e}\,+\,c\,\,\mathsf{f}}{\mathsf{f}\,\,\big(\,\mathsf{c}\,+\,\mathsf{d}\,\,\mathsf{x}\big)}}&\sqrt{1-\frac{-\,\mathsf{d}\,\mathsf{g}\,+\,c\,\,\mathsf{h}}{\mathsf{h}\,\,\big(\,\mathsf{c}\,+\,\mathsf{d}\,\,\mathsf{x}\big)}}&\mathsf{EllipticPi}\,\big[\,\frac{\big(\,\mathsf{b}\,\,\mathsf{c}\,-\,\mathsf{a}\,\,\mathsf{d}\big)\,\,\mathsf{h}}{\mathsf{b}\,\,\big(\,-\,\mathsf{d}\,\,\mathsf{g}\,+\,c\,\,\mathsf{h}\big)}\,\mathsf{,}\right.$$

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

$$\frac{d^2 eg}{\left(c+dx\right)^2} - \frac{cdfg}{\left(c+dx\right)^2} - \frac{cdeh}{\left(c+dx\right)^2} + \frac{c^2fh}{\left(c+dx\right)^2} + \frac{dfg}{c+dx} + \frac{deh}{c+dx} - \frac{2\,cfh}{c+dx}\right) - \frac{1}{c+dx}$$

$$i \, ArcSinh \left[\frac{\sqrt{-\frac{-dg\cdot ch}{h}}}{\sqrt{c+dx}}\right], \, \frac{\left(-\frac{de+cf}{h}\right)h}{f\left(-dg+ch\right)}\right] / \left[b\sqrt{-\frac{-dg+ch}{h}}\sqrt{\left[fh+\frac{deh}{h}\right]}\right] + \frac{2\,cfh}{h}\sqrt{\left[fh+\frac{deh}{h}\right]}$$

$$\frac{d^2 eg}{\left(c+dx\right)^2} - \frac{cdfg}{\left(c+dx\right)^2} - \frac{cdeh}{\left(c+dx\right)^2} + \frac{c^2fh}{\left(c+dx\right)^2} + \frac{dfg}{c+dx} + \frac{deh}{c+dx} - \frac{2\,cfh}{c+dx}\right) + \frac{1}{b\left(-dg+ch\right)}$$

$$\frac{1}{b\,c-ad} Ab^2fh \left[\left[i\,c\sqrt{1-\frac{-de+cf}{f\left(c+dx\right)}}\sqrt{1-\frac{-dg+ch}{h\left(c+dx\right)}}\right] + \frac{\left(b\,c-ad\right)h}{\left(c+dx\right)}\right] + \frac{1}{b\left(-dg+ch\right)}$$

$$i \, ArcSinh \left[\frac{\sqrt{-\frac{-dg\cdot ch}{h}}}{\sqrt{c+dx}}\right], \, \frac{\left(-de+cf\right)h}{\left(c+dx\right)^2} + \frac{c^2fh}{\left(c+dx\right)^2} + \frac{dfg}{c+dx} + \frac{deh}{c+dx} - \frac{2\,cfh}{c+dx}\right) - \frac{1}{b\left(-dg+ch\right)}$$

$$i \, ad\sqrt{1-\frac{-de+cf}{f\left(c+dx\right)^2}} \, \sqrt{1-\frac{-dg+ch}{h\left(c+dx\right)^2}} \, EllipticPi \left[\frac{\left(bc-ad\right)h}{b\left(-dg+ch\right)}\right] - \frac{1}{b\left(-dg+ch\right)}$$

$$i \, ArcSinh \left[\frac{\sqrt{-\frac{-dg\cdot ch}{h}}}{\sqrt{c+dx}}\right], \, \frac{\left(-de+cf\right)h}{h\left(c+dx\right)} \, EllipticPi \left[\frac{\left(bc-ad\right)h}{b\left(-dg+ch\right)}\right]$$

$$\begin{split} &\frac{A\,b^2\,c^2\,f\,h}{\left(\,c\,+d\,x\,\right)^{\,2}}\,+\,\frac{a^2\,c^2\,C\,f\,h}{\left(\,c\,+d\,x\,\right)^{\,2}}\,+\\ &\frac{2\,b^2\,c\,C\,e\,g}{c\,+d\,x}\,+\,\frac{2\,a\,b\,C\,d\,e\,g}{c\,+d\,x}\,-\\ &\frac{2\,a\,b\,c\,C\,f\,g}{c\,+d\,x}\,+\,\frac{2\,A\,b^2\,d\,f\,g}{c\,+d\,x}\,-\\ &\frac{2\,a\,b\,c\,C\,e\,h}{c\,+d\,x}\,+\,\frac{2\,A\,b^2\,d\,e\,h}{c\,+d\,x}\,-\\ &\frac{2\,A\,b^2\,c\,f\,h}{c\,+d\,x}\,-\,\frac{2\,a\,A\,b\,d\,f\,h}{c\,+d\,x}\,-\\ &\frac{2\,A\,b^2\,c\,f\,h}{c\,+d\,x}\,-\,\frac{2\,a\,A\,b\,d\,f\,h}{c\,+d\,x}\,\right) \end{split}$$

Problem 31: Result more than twice size of optimal antiderivative.

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

Optimal (type 4, 1395 leaves, 10 steps):

Result (type 4, 38 310 leaves): Display of huge result suppressed!

Problem 32: Result more than twice size of optimal antiderivative.

$$\int \frac{\sqrt{a+bx} \; (A+Cx^2)}{\sqrt{c+dx} \; \sqrt{e+fx} \; \sqrt{g+hx}} \; dx } \\ Optimal (type 4, 937 leaves, 9 steps): \\ \frac{C \; (adfh-3b \; (dfg+deh+cfh)) \; \sqrt{a+bx} \; \sqrt{e+fx} \; \sqrt{g+hx}}{4b \; df^2 \; h^2 \; \sqrt{c+dx}} \\ \frac{4b \; df^2 \; h^2 \; \sqrt{c+dx}}{2 \; dfh} \\ \frac{C \; \sqrt{a+bx} \; \sqrt{c+dx} \; \sqrt{e+fx} \; \sqrt{g+hx}}{2 \; dfh} \\ \\ C \; \sqrt{dg-ch} \; \sqrt{fg-eh} \; (adfh-3b \; (dfg+deh+cfh)) \; \sqrt{a+bx} \; \sqrt{-\frac{(de-cf) \; (g+hx)}{(fg-eh) \; (c+dx)}}} \\ = EllipticE \left[ArcSin \left[\frac{\sqrt{dg-ch} \; \sqrt{e+fx}}{\sqrt{fg-eh} \; \sqrt{c+dx}} \right], \; \frac{(bc-ad) \; (fg-eh)}{(be-af) \; (dg-ch)} \right] \right] / \\ \\ \left\{ 4b \; d^2 \; f^2 \; h^2 \; \sqrt{\frac{(de-cf) \; (a+bx)}{(be-af) \; (c+dx)}} \; \sqrt{g+hx} \right\} + \\ \\ \left\{ C \; (be-af) \; \sqrt{bg-ah} \; \; (adfh+b \; (cfh+3d \; (fg+eh))) \; \sqrt{\frac{(be-af) \; (c+dx)}{(de-cf) \; (a+bx)}}} \\ \sqrt{g+hx} \; EllipticF \left[ArcSin \left[\frac{\sqrt{bg-ah} \; \sqrt{e+fx}}{\sqrt{fg-eh} \; \sqrt{a+bx}} \right], \; -\frac{(bc-ad) \; (fg-eh)}{(de-cf) \; (bg-ah)} \right] \right] / \\ \\ \left\{ 4b^2 \; df^2 \; h^2 \; \sqrt{fg-eh} \; \sqrt{c+dx} \; \sqrt{-\frac{(be-af) \; (g+hx)}{(fg-eh) \; (a+bx)}}} \right. \\ \\ \left\{ \sqrt{-dg+ch} \; \; (C \; (adfh-3b \; (dfg+deh+cfh)) \; (adfh+b \; (dfg+deh+cfh)) \; -\frac{4bdfh \; (2Abdfh-C \; (b \; (deg+cfg+ceh)+a \; (dfg+deh+cfh)))}{(dg-ah) \; (c+dx)} \; \sqrt{\frac{(bg-ah) \; (e+fx)}{(dg-ch) \; (a+bx)}} \right] / \\ \\ EllipticPi \left[-\frac{b \; (dg-ch)}{(bc-ad) \; h}, ArcSin \left[\frac{\sqrt{bc-ad} \; \sqrt{g+hx}}{\sqrt{dg+ch} \; \sqrt{a-bx}} \right], \; \frac{(be-af) \; (dg-ch)}{(bc-ad) \; (fg-eh)} \right] / \\ \\$$

Result (type 4, 16 659 leaves):

 $(4 b^2 d^2 \sqrt{b c - a d} f^2 h^3 \sqrt{c + d x} \sqrt{e + f x})$

$$\frac{1}{2\,b^3\,d\,f\,h} \left[\left(C \left(-3\,b\,d\,f\,g - 3\,b\,d\,e\,h - 3\,b\,c\,f\,h + a\,d\,f\,h \right) \, \left(a + b\,x \right)^{5/2} \right. \\ \left. \left(d + \frac{b\,c}{a + b\,x} - \frac{a\,d}{a + b\,x} \right) \left(f + \frac{b\,e}{a + b\,x} - \frac{a\,f}{a + b\,x} \right) \left(h + \frac{b\,g}{a + b\,x} - \frac{a\,h}{a + b\,x} \right) \right] / \\ \left. \left(2\,d\,f\,h\,\sqrt{c + \frac{\left(a + b\,x \right) \, \left(d - \frac{a\,d}{a + b\,x} \right)}{b}} \, \sqrt{e + \frac{\left(a + b\,x \right) \, \left(f - \frac{a\,f}{a + b\,x} \right)}{b}} \, \sqrt{g + \frac{\left(a + b\,x \right) \, \left(h - \frac{a\,h}{a + b\,x} \right)}{b}} \right) + \\ \left[1 / \left[2\,d\,f\,h\,\sqrt{c + \frac{\left(a + b\,x \right) \, \left(d - \frac{a\,d}{a + b\,x} \right)}{b}} \, \sqrt{e + \frac{\left(a + b\,x \right) \, \left(f - \frac{a\,f}{a + b\,x} \right)}{b}} \, \sqrt{g + \frac{\left(a + b\,x \right) \, \left(h - \frac{a\,h}{a + b\,x} \right)}{b}} \right) + \\ \left[\left(a + b\,x \right)^{3/2} \, \sqrt{\left(\left(d + \frac{b\,c}{a + b\,x} - \frac{a\,d}{a + b\,x} \right) \, \left(f + \frac{b\,e}{a + b\,x} - \frac{a\,f}{a + b\,x} \right) \, \left(h + \frac{b\,g}{a + b\,x} - \frac{a\,h}{a + b\,x} \right) \right)} \right] \\ \left[\left(3\,b^4\,c\,C\,d\,e\,f\,g^2 \, \sqrt{\frac{\left(b\,c - a\,d \right) \, \left(b\,g - a\,h \right) \, \left(- \frac{d}{a + b\,x} \right)}{b\,d\,g - b\,c\,h}} \, - \frac{\left(- \frac{f}{-b\,e + a\,f} + \frac{1}{a + b\,x} \right) \, \sqrt{\frac{-\frac{h}{-b\,e + a\,f} + \frac{1}{a + b\,x}}{-b\,e + a\,f} - \frac{h}{-b\,g\,a\,h}}} \right. \\ \left. \left(- \left(\left(b\,d\,g - b\,c\,h \right) \, EllipticE \left[ArcSin \left[\sqrt{\frac{\left(b\,e - a\,f \right) \, \left(h + \frac{b\,g}{a + b\,x} - \frac{a\,h}{a + b\,x} \right)}{b \, \left(- f\,g + e\,h \right)}} \right] \right] / \left. \left(\left(b\,c - a\,d \right) \, \left(- f\,g + e\,h \right) \right. \right] \right. \\ \left. \left(- \frac{f}{-b\,e + a\,f} + \frac{1}{a + b\,x} \right) \, \sqrt{\left(d + \frac{b\,c}{a\,f} - \frac{a\,h}{a + b\,x} \right)} \right] \right. \\ \left. \left(- \left(b\,c - a\,f \right) \, \left(- \left(b\,g - a\,f \right) \, \left(- \left(b\,g - a\,h \right) \right) \right) - \frac{1}{-b\,c + a\,d}} \right. \\ \left. \left(- \left(- \left(b\,c - a\,f \right) \, \left(- \left(- \left(a + b\,f \right) \, \left(a + b\,f \right) \, \left(- \left(a + b\,f \right) \, \left(a + b\,f \right) \, \left(a + b\,f \right) \right)} \right] \right] \right. \\ \left. \left(- \left(b\,c - a\,f \right) \, \left(\left(b\,c - a\,f \right) \, \left(\left(b\,c - a\,f \right) \, \left(b\,f \right) \, \left(a + b\,f \right) \right) \right] \right] \right. \\ \left. \left(- \left(a\,f + a\,f \right) \, \left(\left(a\,f + a\,f \right) \, \left(a + b\,f \right) \,$$

$$g^{2}\sqrt{\frac{\left(bc-ad\right)\left(bg-ah\right)\left(-\frac{d}{-bc+ad}+\frac{1}{a-bx}\right)}{bdg-bch}}\left(-\frac{f}{-be+af}+\frac{1}{a+bx}\right)\sqrt{\frac{\frac{h}{-bc+af}+\frac{1}{a-bx}}{\frac{h}{-bc+af}-\frac{h}{-bc+af}}}}\right)}{\left(-b(bdg-bch)\left(bdg-bch)\left(-fg+eh\right)\right]}\left(-\frac{f}{-bc+ad}\right)\left(-\frac{h}{bg-ah}+\frac{1}{a-bx}\right)}{b\left(-fg+eh\right)}\right],$$

$$\frac{\left(-bc+ad\right)\left(-fg+eh\right)}{\left(-bc+af\right)\left(-dg+ch\right)}\right]\left/\left(\left(bc-ad\right)\left(bg-ah\right)\right)\right|-\frac{1}{-bc+ad}$$

$$d\, Elliptic \left[ArcSin\left[\sqrt{\frac{\left(be-af\right)\left(h+\frac{bg}{a-bx}-\frac{ah}{a-bx}\right)}{b\left(-fg+eh\right)}}\right],\,\, \frac{\left(-bc+ad\right)\left(-fg+eh\right)}{\left(-be+af\right)\left(-dg+ch\right)}\right]\right)\right/$$

$$\sqrt{\frac{-\frac{f}{-bc+af}+\frac{1}{a-bx}}{\frac{-bg-ah}{-bg-ah}}}\sqrt{\left(d+\frac{bc-ad}{a+bx}\right)\left(f+\frac{be-af}{a+bx}\right)\left(h+\frac{bg-ah}{a+bx}\right)}$$

$$-\frac{1}{-bc+af}+\frac{1}{a-bx}$$

$$\sqrt{\frac{bdg-bch}{a+bx}+\frac{1}{a-bx}}$$

$$\sqrt{\frac{bdg-bch}{a+bx}+\frac{1}{a-bx}}$$

$$\sqrt{\frac{bdg-bch}{a+bx}+\frac{1}{a-bx}}$$

$$\sqrt{\frac{-\frac{h}{-bc+af}+\frac{1}{a-bx}}{\frac{-bg-ah}{a-bc+af}-\frac{h}{a-bx}}}$$

$$\sqrt{\frac{\left(bc-af\right)\left(h+\frac{bg}{a-bx}-\frac{ah}{a-bx}\right)}{b\left(-fg+eh\right)}}}\right],\,\, \frac{\left(-bc+ad\right)\left(-fg+eh\right)}{\left(-bc+ad\right)}$$

$$d\, Elliptic \left[ArcSin\left[\sqrt{\frac{\left(be-af\right)\left(h+\frac{bg}{a-bx}-\frac{ah}{a-bx}\right)}{b\left(-fg+eh\right)}}\right],\,\, \frac{\left(-bc+ad\right)\left(-fg+eh\right)}{\left(-bc+af\right)\left(-dg+ch\right)}\right]\right)/\sqrt{\frac{-\frac{f}{-bc+af}+\frac{1}{a-bx}}{bg-ah}}}$$

$$\sqrt{\frac{-\frac{f}{-bc+af}+\frac{1}{a-bx}}{bg-ah}}\,\,\sqrt{\left(d+\frac{bc-ad}{a+bx}\right)\left(f+\frac{be-af}{a+bx}\right)\left(h+\frac{bg-ah}{a+bx}\right)}\,\,,\,\, \frac{\left(-bc+ad\right)\left(-fg+eh\right)}{\left(-bc+af\right)\left(-dg+ch\right)}\right]\right)/\sqrt{\frac{-\frac{f}{-bc+af}+\frac{1}{a-bx}}{bg-ah}}}$$

$$\left[3 \, a^2 \, b^2 \, C \, d^2 \, f^2 \, g^2 \, \sqrt{ \frac{ \left(b \, c - a \, d \right) \, \left(b \, g - a \, h \right) \, \left(- \frac{d}{-b \, c + a \, d} + \frac{1}{a \cdot b \, x} \right) }{ b \, d \, g - b \, c \, h} } \right. \\ \left. \left(- \frac{f}{-b \, e + a \, f} + \frac{1}{a + b \, x} \right) \, \sqrt{ \frac{- \frac{h}{-b \, g + a} \, h}{-b \, e + a} - \frac{h}{a \cdot b \, x} }{ \frac{f}{-b \, e + a} \, f} } \right. \\ \left. \left(- \left[\left(b \, d \, g - b \, c \, h \right) \, EllipticE \left[ArcSin \left[\sqrt{ \frac{\left(b \, e - a \, f \right) \, \left(h + \frac{b \, g}{-a \, b \, x} - \frac{a \, h}{a \cdot b \, x} \right)}{b \, \left(- f \, g + e \, h \right)}} \right] \right] \right. \\ \left. \left. \frac{\left(- b \, c + a \, d \right) \, \left(- f \, g + e \, h \right)}{\left(- b \, e + a \, f \right) \, \left(- d \, g + c \, h \right)} \right] \right] \right/ \left(\left(b \, c - a \, d \right) \, \left(b \, g - a \, h \right) \right) \right] - \frac{1}{-b \, c + a \, d} \\ \left. \frac{\left(- b \, c + a \, d \right) \, \left(- f \, g + e \, h \right)}{b \, \left(- f \, g + e \, h \right)} \right] \right) \right/ \left(\frac{\left(- b \, c + a \, d \right) \, \left(- f \, g + e \, h \right)}{b \, \left(- f \, g + e \, h \right)} \right] \right) \right/ \\ \left[\sqrt{ \frac{-\frac{f}{-b \, e + a \, f} + \frac{1}{a \cdot b \, x} }{-\frac{b}{-b \, g \cdot a \, h}} \, \sqrt{ \left(d + \frac{b \, c \, - a \, d}{a + b \, x} \right) \left(f + \frac{b \, e \, - a \, f}{a + b \, x} \right) \left(h + \frac{b \, g \, - a \, h}{a + b \, x} \right) } \right] \right. \\ \left. \left. \left(- \frac{f}{-b \, e + a \, f} + \frac{1}{a + b \, x} \right) \sqrt{ \frac{-\frac{h}{-b \, g \cdot a \, h} + \frac{1}{a \cdot b \, x} }{b \, d \, g - b \, c \, h}} \right. \right. \\ \left. \left. \left(- \left(b \, c \, - a \, d \right) \, \left(b \, g \, - a \, h \right) \left(- \frac{1}{-b \, g \cdot a \, h} \right) \right. \right. \\ \left. \left. \left(- \left(b \, c \, - a \, d \right) \, \left(- \left(b \, g \, - a \, h \right) \right) \right) - \frac{1}{-b \, c \cdot a \, d} \right. \right. \\ \left. \left. \left. \left(- \left(b \, c \, - a \, d \right) \, \left(- \left(f \, g \, - a \, h \right) \right) \right. \right) \right. \\ \left. \left. \left(- \left(b \, c \, - a \, d \right) \, \left(- \left(f \, g \, - a \, h \right) \right) \right. \right. \right. \right. \\ \left. \left. \left(- \left(b \, c \, - a \, d \right) \, \left(- \left(- \left(f \, g \, - a \, h \right) \right) \right. \right) \right. \right. \\ \left. \left. \left(- \left(b \, c \, - a \, d \right) \, \left(- \left(- \left(f \, g \, - a \, h \right) \right) \right) \right. \right. \\ \left. \left. \left(- \left(b \, c \, - a \, d \right) \, \left(- \left(- \left(f \, g \, - a \, h \right) \right) \right. \right) \right. \right. \\ \left. \left. \left(- \left(b \, c \, - a \, d \right) \, \left(- \left(- \left(f \, g \, - a \, h \right) \right) \right. \right) \right. \right. \\ \left. \left. \left(- \left(b \, c \, - a \, d \right) \, \left(- \left(- \left(f \, g \, - a \, h \right) \right) \right) \right. \right. \right. \right. \right] \right. \\ \left. \left. \left(- \left(b \, c \, - a \, d \right) \, \left(- \left(- \left(f \, g \, - a \, h$$

$$\left(\sqrt{\frac{\frac{-\frac{-b + a + f}{a + b \times}}{-\frac{f}{b + b + a + f}}} \sqrt{\left(d + \frac{b \, c - a \, d}{a + b \, x}\right) \left(f + \frac{b \, e - a \, f}{a + b \, x}\right) \left(h + \frac{b \, g - a \, h}{a + b \, x}\right)} \right) - \\ \left(-\frac{f}{-b \, e + a \, f} + \frac{1}{a + b \, x} \right) \sqrt{\frac{-\frac{h}{b \, g + a \, h} + \frac{1}{a + b \, x}}{-\frac{b \, g + a \, h}{-b \, e + a \, f} - \frac{b \, g}{-b \, e + a \, f}} \right] } \\ - \left(\left(\left(b \, d \, g - b \, c \, h\right) \, EllipticE \left[ArcSin \left(\sqrt{\frac{\left(b \, e - a \, f\right) \left(h + \frac{b \, g}{a + b \, x} - \frac{a \, h}{a + b \, x}\right)}{b \left(-f \, g + e \, h\right)}} \right] \right) \right) \\ \left(\left(b \, c - a \, d\right) \left(b \, g - a \, h\right) \left(-\frac{1}{-b \, c + a \, d}\right) \right) - \frac{1}{-b \, c + a \, d}$$

$$d \, EllipticF \left[ArcSin \left(\sqrt{\frac{\left(b \, e - a \, f\right) \left(h + \frac{b \, g}{a + b \, x} - \frac{a \, h}{a + b \, x}\right)}{b \left(-f \, g + e \, h\right)}} \right] \right) \right) \left(-\frac{1}{-b \, c + a \, d}\right)$$

$$d \, ClipticF \left[ArcSin \left(\sqrt{\frac{\left(b \, e - a \, f\right) \left(h + \frac{b \, g}{a + b \, x} - \frac{a \, h}{a + b \, x}\right)}{b \left(-b \, g + a \, f\right) \left(-b \, g + a \, f\right) \left(-b \, g + a \, h\right)}} \right) \right) \right) \right)$$

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

$$d \, ClipticF \left[ArcSin \left(\sqrt{\frac{\left(b \, c - a \, d\right) \left(b \, g - a \, h\right) \left(-\frac{d}{a + b \, x} - \frac{a \, h}{a + b \, x}\right)}}{b \, d \, g - b \, c \, h}} \right) \right) \left(-\frac{\left(b \, c - a \, f\right) \left(h + \frac{b \, g - a \, h}{a + b \, x}\right)}{b \, d \, g - b \, c \, h}} \right)$$

$$d \, ClipticF \left[ArcSin \left(\sqrt{\frac{\left(b \, c - a \, f\right) \left(h + \frac{b \, g - a \, h}{a + b \, x}\right)}} \right) \left(-\frac{\left(b \, c - a \, f\right) \left(h + \frac{b \, g - a \, h}{a + b \, x}\right)}{b \, d \, g - b \, c \, h}} \right) \right)$$

$$\frac{\left(-b\,c + a\,d\right)\,\left(-f\,g + e\,h\right)}{\left(-b\,e + a\,f\right)\,\left(-b\,g + c\,h\right)} \Bigg] \Bigg/ \left(\left(b\,c - a\,d\right)\,\left(b\,g - a\,h\right)\right) \Bigg| - \frac{1}{-b\,c + a\,d}$$

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

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

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

$$\left(-\frac{f}{-b\,e + a\,f} + \frac{1}{a + b\,x}\right)\sqrt{\frac{-\frac{h}{-b\,g + a\,f} + \frac{1}{a + b\,x}}{-\frac{h}{-b\,e + a\,f} - \frac{h}{-b\,g + a\,h}}}} \right.$$

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

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

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

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

$$\left(-\left(\left[\left(b \, d \, g - b \, c \, h \right) \, EllipticE \left[ArcSin \left[\sqrt{\frac{\left(b \, e - a \, f \right) \, \left(h + \frac{b \, g}{a \, b \, x} - \frac{a \, h}{a \, b \, x} \right)}{b \, \left(- f \, g + e \, h \right)}} \right] \right), \\ \frac{\left(- b \, c + a \, d \right) \, \left(- f \, g + e \, h \right)}{\left(- b \, e + a \, f \right) \, \left(- d \, g + c \, h \right)} \right] \right) / \left(\left(b \, c - a \, d \right) \, \left(b \, g - a \, h \right) \right) \right) - \frac{1}{-b \, c + a \, d}$$

$$d \, EllipticF \left[ArcSin \left[\sqrt{\frac{\left(b \, e - a \, f \right) \, \left(h + \frac{b \, g}{a + b \, x} - \frac{a \, h}{a + b \, x} \right)}{b \, \left(- f \, g + e \, h \right)}} \, \right], \frac{\left(- b \, c + a \, d \right) \, \left(- f \, g + e \, h \right)}{\left(- b \, e + a \, f \right) \, \left(- d \, g + c \, h \right)} \right] \right) \right) /$$

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

$$\left(-\frac{f}{-b \, e \, + a \, f} + \frac{1}{a \, + b \, x} \right) \sqrt{\frac{-\frac{h}{b \, a \, a \, h} + \frac{1}{a \, b \, x}}{-\frac{h}{b \, b \, a \, f} - \frac{h}{a \, b \, x}}}}}{b \, \left(-f \, g \, + e \, h \right)} \right) \right) / \frac{\left(b \, e \, - a \, f \right) \, \left(h \, + \frac{b \, g \, - \, a \, h}{a \, a \, b \, x} \right)}{b \, \left(- f \, g \, + e \, h \right)}} \right] ,$$

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

$$\frac{\left(- b \, c \, + a \, d \right) \, \left(- f \, g \, + e \, h \right)}{\left(- b \, e \, - a \, f \right) \, \left(- d \, g \, + c \, h \right)} \right) / \left(\left(b \, c \, - a \, d \right) \, \left(b \, g \, - a \, h \right)} \right) - \frac{1}{-b \, c \, + a \, d} \right) / \left(- b \, c \, + a \, d \right) / \left(- d \, g \, + c \, h \right)} \right) / \left(\left(b \, c \, - a \, d \right) \, \left(b \, g \, - a \, h \right) \right) / \left(- b \, c \, + a \, d \right) \left(- f \, g \, + e \, h \right)} \right) / \left(- b \, c \, + a \, d \right) / \left(- b \, c \, - a \, d \right) / \left(- d \, g \, + c \, h \right) / \left(- d \, g \, + c \, h \right)} \right) / \left(- b \, c \, - a \, d \right) / \left(- d \, g \, + c \, h \right) / \left(- d \, g \, + c \, h \right) / \left(- d \, g \, + c \, h \right) / \left(- d \, g \, + c \, h \right) / \left(- d \, g \, + c \, h \right) / \left(- d \, g \, + c \, h \right) / \left(- d \, g \, + c \, h \right) / \left(- d \, g \, + c \, h \right) / \left(- d$$

$$\left(-\frac{f}{-b + a \, f} + \frac{1}{a + b \, x} \right) \sqrt{\frac{-\frac{h}{-b \, g \, ab} + \frac{1}{a + b \, x}}{\frac{f}{-b \, -b \, g \, ab}}} \sqrt{\frac{\left(b \, e \, -a \, f\right) \left(h + \frac{b \, g}{-a \, b} - \frac{a \, h}{a + b \, x}\right)}{b \left(-f \, g + e \, h\right)}} \right],$$

$$\left(-\frac{\left(-b \, c + a \, d\right) \left(-f \, g + e \, h\right)}{\left(-b \, e + a \, f\right) \left(-d \, g + c \, h\right)} \right] / \left(\left(b \, c \, -a \, d\right) \left(b \, g \, -a \, h\right) \right) - \frac{1}{-b \, c + a \, d}$$

$$\frac{\left(-b \, c + a \, d\right) \left(-f \, g + e \, h\right)}{b \left(-b \, g + e \, h\right)} \right] / \left(\left(b \, c \, -a \, d\right) \left(b \, g \, -a \, h\right) \right) - \frac{1}{-b \, c + a \, d}$$

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

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

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

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

$$d \, EllipticF \left[ArcSin \left[\sqrt{\frac{\left(b \, e \, -a \, f\right) \left(h \, +\frac{b \, g \, -a \, h}{a \, a \, b \, x}\right)}{b \, \left(-f \, g \, +e \, h\right)}} \right], \left(-b \, c \, +a \, d\right) \left(-f \, g \, +e \, h\right)}$$

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

$$\left[3 \, a \, b^3 \, c^2 \, C \, e \, f \, h^2 \, \sqrt{ \frac{ (b \, c - a \, d) \, \left(b \, g - a \, h \right) \, \left(- \frac{d}{-b \, c + a \, d} + \frac{1}{a \cdot b \, x} \right) }{ b \, d \, g - b \, c \, h} } \right] } \\ - \left(- \frac{f}{-b \, e + a \, f} + \frac{1}{a + b \, x} \right) \sqrt{ \frac{-\frac{h}{-b \, g + a} \, h}{-b \, e + a} - \frac{a \, h}{-b \, g + a} } } \\ - \left[\left(\left[\left(b \, d \, g - b \, c \, h \right) \, EllipticE \left[ArcSin \left[\sqrt{ \frac{\left(b \, e - a \, f \right) \, \left(h + \frac{b \, g}{-a \, b \, x} - \frac{a \, h}{a - b \, x} \right)}{b \, \left(-f \, g + e \, h \right)}} \, \right], \\ - \frac{\left(-b \, c + a \, d \right) \, \left(-f \, g + e \, h \right)}{\left(-b \, e + a \, f \right) \, \left(-d \, g + c \, h \right)} \, \right] / \left(\left(b \, c - a \, d \right) \, \left(b \, g - a \, h \right) \right) \right] - \frac{1}{-b \, c + a \, d} \\ - \frac{\left(-b \, c + a \, d \right) \, \left(-f \, g + e \, h \right)}{b \, \left(-f \, g + e \, h \right)} \, \right] / \left(\frac{\left(-b \, c + a \, d \right) \, \left(-f \, g + e \, h \right)}{b \, \left(-f \, g + e \, h \right)} \, \right] \right) / \\ - \frac{\left(-\frac{f}{-b \, e + a \, f} + \frac{1}{-a \, b \, x \, x}}{-\frac{f}{-b \, g + a \, h}} \, \sqrt{ \left(d + \frac{b \, c \, - a \, d}{a + b \, x} \right) \left(f + \frac{b \, e \, - a \, f}{a + b \, x} \right) \left(h + \frac{b \, g \, - a \, h}{a + b \, x} \right) } \right] } \\ - \left(- \frac{f}{-b \, e + a \, f} + \frac{1}{a + b \, x} \right) \sqrt{ \frac{\left(b \, c \, - a \, d \right) \, \left(b \, g \, - a \, h \right) \left(-\frac{d}{a + b \, x} + \frac{1}{a \cdot b \, x} \right)}{b \, \left(-f \, g + e \, h \right)}} \right] } \\ - \left(- \left[\left(b \, d \, g \, - b \, c \, h \right) \, EllipticE \left[ArcSin \left[\sqrt{ \frac{\left(b \, c \, - a \, d \right) \, \left(b \, g \, - a \, h \right) \, \left(-\frac{h}{a \, b \, x} - \frac{a \, h}{a \cdot b \, x} \right)}{b \, \left(-f \, g \, + e \, h \right)}} \right] \right] / \left(-b \, c \, - a \, d \right) \left(-f \, g \, - e \, h \right)} \\ - \left(-b \, c \, + a \, d \right) \left(-f \, g \, + e \, h \right) \right] / \left(\left(b \, c \, - a \, d \right) \, \left(b \, g \, - a \, h \right) \right) - \frac{1}{-b \, c \, + a \, d} \right)$$

$$\left(\sqrt{\frac{-\frac{f}{be+af} + \frac{1}{a+bx}}{-\frac{f}{be+af} + \frac{1}{a+bx}}} \sqrt{\left(d + \frac{bc-ad}{a+bx}\right) \left(f + \frac{be-af}{a+bx}\right) \left(h + \frac{bg-ah}{a+bx}\right)} - \frac{1}{\left(d + \frac{bc-ad}{a+bx}\right) \left(d + \frac{bc-ad}{a+bx}\right) \left(h + \frac{bg-ah}{a+bx}\right)} - \frac{1}{\left(d + \frac{bc-ad}{a+bx}\right) \left(d + \frac{bc-ad}{a+bx}\right)} - \frac{1}{\left(d + \frac{bc-ad}{a+bx}\right) \left(d + \frac{bc-ad}{a+bx}\right) \left(d + \frac{bc-ad}{a+bx}\right)} - \frac{1}{\left(d + \frac{bc-ad}{a+bx}\right) \left(d + \frac{bc-ad}{a+bx}\right) \left(d + \frac{bc-ah}{a+bx}\right) \left(d + \frac{bc-ah}{a+bx}\right)} - \frac{1}{\left(d + \frac{bc-ad}{a+bx}\right) \left(d + \frac{bc-ah}{a+bx}\right) \left(d + \frac{bc-ah}{a+bx}\right)} - \frac{1}{\left(d + \frac{bc-ad}{a+bx}\right) \left(d + \frac{bc-ah}{a+bx}\right)} - \frac{1}{\left(d + \frac{bc-ad}{a+bx}\right) \left(d + \frac{bc-ah}{a+bx}\right)} - \frac{1}{\left(d + \frac{bc-ah}{a+bx}\right) \left(d + \frac{bc-ah}{a+bx}\right)} - \frac{1}{\left(d + \frac{bc-ah}{a+bx}\right)}$$

$$\begin{split} & \text{d EllipticF} \Big[\text{ArcSin} \Big[\sqrt{\frac{\left(b \, e - a \, f \right) \left(h + \frac{b \, g}{a \cdot b \, x} - \frac{a \, h}{a \cdot b \, x} \right)}{b \left(- f \, g + e \, h \right)}} \, \Big], \, \frac{\left(- b \, c + a \, d \right) \left(- f \, g + e \, h \right)}{\left(- b \, e + a \, f \right) \left(- d \, g + c \, h \right)} \, \Big] \Big] \Big) \Big/ \\ & \left(\sqrt{\frac{-\frac{f}{-b \, e + a \, f} + \frac{1}{b \, g \cdot a \, h}}{-\frac{b}{b \, e + a \, f}}} \, \sqrt{\left(d + \frac{b \, c \, - a \, d}{a + b \, x} \right) \left(f + \frac{b \, e \, - a \, f}{a + b \, x} \right) \left(h + \frac{b \, g \, - a \, h}{a + b \, x} \right)} \, - \right. \\ & \left(-\frac{f}{-b \, e + a \, f} + \frac{1}{a + b \, x} \right) \sqrt{\frac{-\frac{b}{-b \, g \cdot a \, h} + \frac{1}{a \cdot b \, x}}{\frac{f}{-b \, e + a \, f} - \frac{b \, h}{-b \, g \cdot a \, f} - \frac{b}{-b \, g \cdot b \, h}}} \\ & \left(-\left[\left(b \, d \, g \, - b \, c \, h \right) \, \text{EllipticE} \left[\text{ArcSin} \left[\sqrt{\frac{\left(b \, e \, - a \, f \right) \left(h + \frac{b \, g}{-a \, b \, x} - \frac{a \, h}{a \cdot b \, x} \right)}{b \left(- f \, g + e \, h \right)}} \, \right], \\ & \frac{\left(- b \, c \, + a \, d \right) \left(- f \, g + e \, h \right)}{\left(- b \, e \, + a \, f \right) \left(- d \, g \, + c \, h \right)} \, \left[\right] \Big/ \left(\left(b \, c \, - a \, d \right) \left(b \, g \, - a \, h \right) \right) - \frac{1}{-b \, c \, + a \, d}} \\ & \frac{\left(- b \, c \, + a \, d \right) \left(- f \, g \, + e \, h \right)}{\left(- b \, e \, + a \, f \right) \left(- d \, g \, + c \, h \right)} \, \left[\right] \Big/ \left(\left(b \, c \, - a \, d \right) \left(b \, g \, - a \, h \right) \right) - \frac{1}{-b \, c \, + a \, d}} \right] \\ & \sqrt{\frac{\left(- b \, c \, + a \, d \right) \left(- d \, g \, + c \, h \right)}{b \left(- f \, g \, + e \, h \right)}} \, \left[\left(- \, b \, c \, + a \, d \right) \left(- \, f \, g \, + e \, h \right)} \right] \Big/ \\ & \sqrt{\frac{\left(- \, b \, c \, - a \, d \right) \left(- \, d \, g \, + c \, h \right)}{b \left(- \, f \, g \, + e \, h \right)}} \, \left[- \left(\left(b \, c \, - a \, d \right) \left(b \, g \, - a \, h \right) \left(- \, f \, g \, + e \, h \right)} \right) \Big] \Big/ \\ & \sqrt{\frac{\left(- \, b \, c \, - a \, d \right) \left(- \, f \, g \, + e \, h \right)}{b \, c \, - a \, b \, b \, x}}} \, \sqrt{\frac{\left(- \, b \, c \, - a \, d \right) \left(- \, f \, g \, + e \, h \right)}{b \, c \, - a \, d \, b \, x}}} \, \left[- \left(\left(b \, c \, - a \, d \right) \left(b \, g \, - a \, h \right) \left(- \, f \, g \, + a \, h \right)} \right) \Big) \Big/ \\ & \sqrt{\frac{\left(- \, b \, c \, - a \, d \right) \left(- \, f \, g \, + e \, h \right)}{b \, c \, - a \, d \, b \, x}}} \, \right)} \, \right] \Big/ \\ & \sqrt{\frac{\left(- \, b \, c \, - a \, d \, d \, b \, x}{b \, c \, - a \, d \, h}} \, \sqrt{\frac{\left(- \, b \, c \, - a \, d \, h \, h \, x}{a \, b \, b \, x}} \, \right)} \, \Big) } \, \Big/ \\ & \sqrt{\frac{$$

$$\left(\sqrt{\frac{-\frac{h}{-be;ah} + \frac{1}{a;bx}}} \sqrt{\left(d + \frac{bc - ad}{a + bx}\right) \left(f + \frac{be - af}{a + bx}\right) \left(h + \frac{bg - ah}{a + bx}\right)} + \frac{1}{a + bx} \right)$$

$$\left(2a^2bCd^2f^2gh \sqrt{\frac{-\frac{d}{-bc;ad} + \frac{1}{a;bx}}{-\frac{d}{-bc;ad} + \frac{h}{-bg;ah}}} \sqrt{\frac{f}{-\frac{f}{-be;af} + \frac{a;bx}{a;bx}}}{-\frac{f}{-be;af} + \frac{1}{-bg;ah}}} \left(-\frac{h}{-bg;ah} + \frac{1}{a+bx} \right)$$

$$EllipticF[ArcSin[\sqrt{\frac{(-be + af)(-h - \frac{bg}{a + bx} + \frac{a;bx}{a;bx})}{b(-fg;eh)}} \right], \frac{(-bc + ad)(-fg;eh)}{(-be + af)(-dg;ch)} \right]$$

$$\left(\sqrt{\frac{-\frac{h}{-bg;ah} + \frac{1}{a;bx}}{-\frac{h}{-be;af} - \frac{h}{-bg;ah}}} \sqrt{\left(d + \frac{bc - ad}{a + bx}\right) \left(f + \frac{be - af}{a + bx}\right) \left(h + \frac{bg - ah}{a;bx}\right)} - \frac{(-bc + ad)(-fg;eh)}{(-be + af)(-dg;ch)} \right]$$

$$\left(2ab^2cCdefh^2 \sqrt{\frac{-\frac{d}{-d} + \frac{1}{-bc;ad} + \frac{1}{a;bx}}} \sqrt{\frac{f}{-\frac{d}{-bc;ad} + \frac{1}{a;bx}}} \sqrt{\frac{f}{-\frac{d}{-be;af} + \frac{1}{a;bx}}} \sqrt{\frac{-\frac{f}{-be;af} + \frac{1}{a;bx}}{b(-fg;eh)}} \right)$$

$$\left(\sqrt{\frac{-\frac{h}{-bg;ah} + \frac{1}{a;bx}}{-\frac{h}{-bc;ad} + \frac{h}{a;bx}}} \sqrt{\left(d + \frac{bc - ad}{a;bx}\right) \left(f + \frac{be - af}{a;bx} + \frac{ah}{a;bx}\right)} \right), \frac{(-bc + ad)(-fg;eh)}{(-be + af)(-dg;ch)} \right)$$

$$\left(\sqrt{\frac{-\frac{h}{-bg;ah} + \frac{1}{a;bx}}{-\frac{h}{-bc;ad} + \frac{h}{a;bx}}} \sqrt{\frac{d}{-\frac{f}{-be;af} + \frac{h}{a;bx}}} \sqrt{\frac{-\frac{f}{-be;af} + \frac{h}{a;bx}}{-\frac{f}{-be;af} + \frac{h}{a;bx}}}} \right), \frac{(-bc + ad)(-fg;eh)}{(-be + af)(-dg;ch)} \right)$$

$$EllipticF[ArcSin[\sqrt{\frac{(-be + af)(-h - \frac{bg}{a;bx} + \frac{ah}{a;bx})}} \sqrt{\frac{f}{-\frac{f}{-be;af} + \frac{h}{a;bx}}} \sqrt{\frac{-\frac{f}{-be;af} + \frac{h}{a;bx}}{-\frac{f}{-be;af} + \frac{h}{-bg;ah}}}$$

$$\left(-\frac{h}{-bg;ah} + \frac{1}{a;bx} - \frac{f}{-be;af} + \frac{h}{a;bx}} - \frac{f}{-\frac{f}{-be;af} + \frac{h}{a;bx}} \right)$$

$$\left(\sqrt{\frac{-\frac{h}{-bg;ah} + \frac{1}{a;bx}}{-\frac{f}{-be;af} + \frac{h}{-bg;ah}}}} \sqrt{\frac{f}{-\frac{f}{-be;af} + \frac{h}{a;bx}}} - \frac{f}{-\frac{f}{-be;af} + \frac{h}{a;bx}}} - \frac{f}{-\frac{f}{-be;af} + \frac{h}{a;bx}}} - \frac{h}{-\frac{f}{-be;af} + \frac{h}{a;bx}}} - \frac{h}{-\frac{f}{-be;af} + \frac{h}{a;bx}}} - \frac{f}{-\frac{f}{-be;af} + \frac{h}{-$$

$$\begin{split} & \text{EllipticF} \Big[\text{ArcSin} \Big[\sqrt{\frac{\left(-b \, e + a \, f \right) \, \left(-h \, -\frac{b \, g}{a + b \, x} \, + \frac{a \, h}{a + b \, x} \right)}{b \, \left(-f \, g + e \, h \right)}} \, \Big] \, , \, \frac{\left(-b \, c + a \, d \right) \, \left(-f \, g + e \, h \right)}{\left(-b \, e + a \, f \right) \, \left(-d \, g + c \, h \right)} \, \Big] \, \Big] \, \\ & \sqrt{\frac{-\frac{h}{b + a \, h} + \frac{1}{a \cdot b \, x}}{\frac{f}{b + b \, c + a \, d} + \frac{1}{a \cdot b \, x}}}} \, \sqrt{\left(d + \frac{b \, c \, -a \, d}{a + b \, x} \right) \, \left(f + \frac{b \, e \, -a \, f}{a + b \, x} \right) \, \left(h + \frac{b \, g \, -a \, h}{a + b \, x} \right)} \, -\frac{1}{a \cdot b \, x} \, \\ & \sqrt{\frac{-\frac{d}{b + a \, d} + \frac{1}{a \cdot b \, x}}{-\frac{b \, c \, -a \, d}{b \, -b \, c \, a \, d} + \frac{h}{a \cdot b \, x}}} \, \sqrt{\frac{-\frac{f}{b \, e \, -a \, f}}{-\frac{f}{a \cdot b \, x} + \frac{h}{a \cdot b \, x}}} \, \left(-\frac{h}{a \cdot b \, x} + \frac{1}{a \cdot b \, x} \right)} \, \\ & EllipticF \Big[\text{ArcSin} \Big[\sqrt{\frac{\left(-b \, e \, +a \, f \right) \, \left(-h \, -\frac{b \, g}{a \cdot b \, x} + \frac{a \, h}{a \cdot b \, x} \right)}{b \, \left(-f \, g \, +e \, h \right)}} \, \right] \, , \, \frac{\left(-b \, c \, +a \, d \right) \, \left(-f \, g \, +e \, h \right)}{\left(-b \, e \, +a \, f \right) \, \left(-d \, g \, +c \, h \right)} \, \Big] \, \\ & \sqrt{\frac{-\frac{h}{a \cdot b \, a \, h} + \frac{1}{a \cdot b \, x}}{-\frac{h}{a \cdot b \, x}}} \, \sqrt{\left(d + \frac{b \, c \, -a \, d}{a \, +b \, x} \right) \, \left(f + \frac{b \, e \, -a \, f}{a \, +b \, x} \right) \, \left(h + \frac{b \, g \, -a \, h}{a \, +b \, x} \right)} \, \Big] \, \\ & \sqrt{\frac{-\frac{d}{a \cdot b \, a \, d} + \frac{1}{a \cdot b \, x}}{\left(-\frac{d}{a \cdot b \, a \, d} + \frac{h}{a \cdot b \, x} \right)}} \, EllipticPi \Big[-\frac{b \, f \, g \, +b \, h}{\left(-b \, e \, +a \, f \right) \, h} \, \Big] \, \\ & \sqrt{\left(d + \frac{b \, c \, -a \, d}{a \, +b \, x} \right) \, \left(f + \frac{b \, g \, -a \, h}{a \, +b \, x} + \frac{h}{a \cdot b \, x} \right)}} \, \\ & \sqrt{\left(d + \frac{b \, c \, -a \, d}{a \, +b \, x} \right) \, \left(f + \frac{b \, g \, -a \, h}{a \, +b \, x} \right)}} \, \\ & \sqrt{\left(d + \frac{b \, c \, -a \, d}{a \, +b \, x} \right) \, \left(f + \frac{b \, g \, -a \, h}{a \, +b \, x} \right)}} \, } \, \\ & \sqrt{\left(d + \frac{b \, c \, -a \, d}{a \, +b \, x} \right) \, \left(f + \frac{b \, g \, -a \, h}{a \, +b \, x} \right)}} \, \\ & \sqrt{\left(-\frac{d}{a \, -b \, c \, +a \, f} + \frac{d}{a \, +b \, x} \right) \, \left(-\frac{d}{a \, +b \, x} \right)} \, \\ & \sqrt{\left(-\frac{d}{a \, -b \, c \, +a \, f} + \frac{d}{a \, +b \, x} \right)} \, \left(-\frac{d}{a \, -b \, c \, +a \, f} + \frac{d}{a \, -b \, c \, +a \, f} \right)} \, \\ & \sqrt{\left(-\frac{d}{a \, -b \, c \, +a \, f} + \frac{d}{a \, +b \, x} \right) \, \left(-\frac{d}{a \, -b \, c \, +a \, f} + \frac{d}{a \, -b \,$$

$$\sqrt{-\frac{\left(-\frac{f}{-be+af} + \frac{1}{a+bx}\right)\left(-\frac{h}{-bg+ah} + \frac{1}{a+bx}\right)}{\left(-\frac{f}{-be+af} + \frac{h}{-bg+ah}\right)^2}} \quad \text{EllipticPi} \Big[-\frac{-bfg+beh}{-be+af}\Big] h,$$

$$ArcSin \Big[\sqrt{\frac{\left(-be+af\right)\left(-h - \frac{bg}{a+bx} + \frac{ah}{a+bx}\right)}{b\left(-fg+eh\right)}} \Big], \quad \frac{\left(-bc+ad\right)\left(-fg+eh\right)}{\left(-be+af\right)\left(-dg+ch\right)} \Big] \Big] /$$

$$\sqrt{\left(d + \frac{bc-ad}{a+bx}\right)\left(f + \frac{be-af}{a+bx}\right)\left(h + \frac{bg-ah}{a+bx}\right)} +$$

$$2b^2ccdefh \left(-bg+ah\right)\left(-\frac{f}{-be+af} + \frac{h}{-bg+ah}\right) \sqrt{\frac{-\frac{d}{-bc+ad} + \frac{1}{a+bx}}{-bc+ad} + \frac{h}{-bg+ah}}} -$$

$$\sqrt{-\frac{\left(-\frac{f}{-be+af} + \frac{1}{a+bx}\right)\left(-\frac{h}{-bg+ah} + \frac{1}{a+bx}\right)}{\left(-\frac{f}{-be+af} + \frac{h}{-bg+ah}\right)^2}} \quad EllipticPi \Big[-\frac{-bfg+beh}{\left(-be+af\right)h},$$

$$ArcSin \Big[\sqrt{\frac{\left(-be+af\right)\left(-h - \frac{bg}{a+bx} + \frac{ah}{a+bx}\right)}{b\left(-fg+eh\right)}} \Big], \quad \frac{\left(-bc+ad\right)\left(-fg+eh\right)}{\left(-be+af\right)\left(-dg+ch\right)} \Big] /$$

$$\sqrt{\left(d + \frac{bc-ad}{a+bx}\right)\left(f + \frac{be-af}{a+bx}\right)\left(h + \frac{bg-ah}{a+bx}\right)} \quad EllipticPi \Big[-\frac{-bfg+beh}{-bc+ad} + \frac{1}{-bg+ah}} -$$

$$\sqrt{-\frac{d}{-bc+ad} + \frac{1}{a+bx}} - \frac{d}{-bc+ad} + \frac{h}{-bg+ah}} -$$

$$\sqrt{-\frac{d}{-bc+ad} + \frac{h}{-bg+ah}}} -$$

$$-\frac{d}{-bc+ad} + \frac{h}{-bg+ah}} -$$

$$-\frac{d}{-bc+ad} + \frac{d}{-bg+ah}} -$$

$$-\frac{d}{-bc+ad} + \frac{d}{-bg+ah}} -$$

$$-\frac{d}{-bc+ad} + \frac{d}{-bg+ah}} -$$

$$-\frac{d}{-bc+ad} + \frac{d}{-bg+ah}} -$$

$$-\frac{d}{-bc+ad} - \frac{d}{-bc+ad}} -$$

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

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

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

$$EllipticPi \left[-\frac{b\,f\,g + b\,e\,h}{\left(-b\,e + a\,f\right) \, h}, \right]$$

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

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

Problem 33: Result more than twice size of optimal antiderivative.

$$\int \frac{A + C \, x^2}{\sqrt{a + b \, x} \, \sqrt{c + d \, x} \, \sqrt{e + f \, x} \, \sqrt{g + h \, x}} \, \mathrm{d}x$$

Optimal (type 4, 757 leaves, 8 steps):

$$\frac{C\sqrt{a+bx}\sqrt{e+fx}\sqrt{g+hx}}{bfh\sqrt{c+dx}} - \frac{C\sqrt{dg-ch}\sqrt{fg-eh}\sqrt{a+bx}}{\sqrt{fg-eh}\sqrt{a+bx}} - \frac{(de-cf)(g+hx)}{(fg-eh)(c+dx)} \ EllipticE\left[ArcSin\left[\frac{\sqrt{dg-ch}\sqrt{e+fx}}{\sqrt{fg-eh}\sqrt{c+dx}}\right]\right],$$

$$\frac{(bc-ad)(fg-eh)}{(be-af)(dg-ch)} \Big] \bigg/ \left(bdfh\sqrt{\frac{(de-cf)(a+bx)}{(be-af)(c+dx)}}\sqrt{g+hx}\right) + \frac{(a^2Cfh+abC(fg+eh)-b^2(Ceg-2Afh))\sqrt{\frac{(be-af)(c+dx)}{(de-cf)(a+bx)}}\sqrt{g+hx}}{\frac{(be-af)(c+dx)}{\sqrt{fg-eh}\sqrt{a+bx}}} \Big], - \frac{(bc-ad)(fg-eh)}{(de-cf)(bg-ah)} \Big] \bigg/$$

$$\frac{b^2fh\sqrt{bg-ah}\sqrt{fg-eh}\sqrt{c+dx}}{\sqrt{fg-eh}\sqrt{a+bx}} - \frac{(be-af)(g+hx)}{(fg-eh)(a+bx)} - \frac{(bg-ah)(c+dx)}{(dg-ch)(a+bx)} - \frac{(bg-ah)(c+dx)}{(dg-ch)(a+bx)} - \frac{(bg-ah)(c+dx)}{(dg-ch)(a+bx)} + \frac{(bg-ah)(c+dx)}{(dg-ch)(a+bx)} \Big],$$

$$\frac{(bg-ah)(e+fx)}{(fg-eh)(a+bx)} \ EllipticPi\Big[- \frac{b(dg-ch)}{(bc-ad)h}, ArcSin\Big[\frac{\sqrt{bc-ad}\sqrt{g+hx}}{\sqrt{-dg+ch}\sqrt{a+bx}} \Big],$$

$$\frac{(be-af)(dg-ch)}{(bc-ad)(fg-eh)} \Big] \bigg/ \left(b^2d\sqrt{bc-ad}fh^2\sqrt{c+dx}\sqrt{e+fx}\right) + \frac{(be-af)(dg-ch)}{(bc-ad)(fg-eh)} \Big] \bigg/$$

Result (type 4, 6207 leaves):

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

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

$$\left(b^{3}cCeg \sqrt{\frac{\left(bc-ad\right)\left(bg-ah\right)\left(-\frac{d}{-bc+ad} + \frac{1}{a\cdot bx}\right)}{bdg-bch}} \right) } \frac{\left(-\frac{f}{-be+af} + \frac{1}{a+bx}\right)\sqrt{\frac{-\frac{h}{-bg+ah} + \frac{1}{a\cdot bx}}{-\frac{h}{-be+af} - \frac{h}{-bg+ah}}} \left(-\left[\left(bdg-bch\right)EllipticE\right] \right)$$

$$ArcSin \left[\sqrt{\frac{\left(be-af\right)\left(h + \frac{bg}{-be+af} - \frac{ah}{-a\cdot bx}\right)}{b\left(-fg+eh\right)}} \right], \frac{\left(-bc+ad\right)\left(-fg+eh\right)}{\left(-be+af\right)\left(-dg+ch\right)} \right] \right)$$

$$\left(\left(bc-ad\right)\left(bg-ah\right) \right) - \frac{1}{-bc+ad} dEllipticF \left[ArcSin \left[-\frac{f}{-\frac{be+af}{-b} + \frac{h}{-bg+ah}} \sqrt{\left(d + \frac{bc-ad}{a+bx}\right)\left(f + \frac{be-af}{a+bx}\right)\left(h + \frac{bg-ah}{a+bx}\right)} \right] \right)$$

$$\left(\sqrt{\frac{-\frac{f}{-\frac{bg+af}{-b} + \frac{1}{a\cdot bx}}{b\left(-be+af\right)\left(-\frac{d}{-bc+ad} + \frac{1}{a\cdot bx}\right)}} \left(-\frac{f}{-be+af} + \frac{1}{a+bx} \right) \right)$$

$$\left(ab^{2}Cdeg \sqrt{\frac{\left(bc-ad\right)\left(bg-ah\right)\left(-\frac{d}{-bc+ad} + \frac{1}{a\cdot bx}\right)}{bdg-bch}} \left(-\frac{f}{-be+af} + \frac{1}{a+bx} \right)$$

$$\sqrt{\frac{-\frac{h}{-bg+ah} + \frac{1}{a\cdot bx}}{-bg+ah}}} \left(-\left[\left(bdg-bch\right)EllipticE\right) \right]$$

$$ArcSin \left[\sqrt{\frac{\left(be-af\right)\left(h + \frac{bg}{-abx} - \frac{ah}{a\cdot bx}\right)}{b\left(-fg+eh\right)}} \right], \frac{\left(-bc+ad\right)\left(-fg+eh\right)}{\left(-be+af\right)\left(-dg+ch\right)} \right]$$

$$\left(\left(bc-ad\right)\left(bg-ah\right) \right) - \frac{1}{-bc+ad} dEllipticF \left[ArcSin \left[-\frac{bg-af}{-bc+ad} + \frac{h}{a\cdot bx} - \frac{ah}{a\cdot bx}\right)} \right]$$

$$\left(\sqrt{\frac{-\frac{f}{-be+af} + \frac{1}{a+bx}}{-\frac{be+af}{-be+af} + \frac{b}{-bg+ah}}} \sqrt{\left(d + \frac{bc-ad}{a+bx}\right) \left(f + \frac{be-af}{a+bx}\right) \left(h + \frac{bg-ah}{a+bx}\right)} - \frac{1}{a+bx} \right)$$

$$= \left(ab^2 c C f g \sqrt{\frac{\left(bc-ad\right) \left(bg-ah\right) \left(-\frac{d}{-bc+ad} + \frac{1}{a+bx}\right)}{bdg-bch}} - \left(-\frac{f}{-be+af} + \frac{1}{a+bx}\right) \right)$$

$$= \left(\frac{-\frac{h}{-be+af} + \frac{1}{a+bx}}{-\frac{h}{-be+af} - bg+ah} - \left(\left(bdg-bch\right) EllipticE \right) \right)$$

$$= \left(\frac{-\frac{h}{-be+af} + \frac{1}{a+bx}}{b\left(-fg+eh\right)} \right) - \frac{1}{-bc+ad} dEllipticF \left[ArcSin \left[\sqrt{\frac{\left(be-af\right) \left(h + \frac{bg}{a+bx} - \frac{ah}{a+bx}\right)}{b\left(-fg+eh\right)}} \right] \right) - \frac{1}{-bc+ad} dEllipticF \left[ArcSin \left[\sqrt{\frac{\left(be-af\right) \left(h + \frac{bg}{a+bx} - \frac{ah}{a+bx}\right)}{b\left(-fg+eh\right)}} \right] \right) \right)$$

$$\left(\sqrt{\frac{-\frac{f}{-be+af} + \frac{1}{a+bx}}{-\frac{h}{-be+af}}} \sqrt{\left(d + \frac{bc-ad}{a+bx}\right) \left(f + \frac{be-af}{a+bx}\right) \left(h + \frac{bg-ah}{a+bx}\right)} \right) +$$

$$\left(a^2 b C d f g \sqrt{\frac{\left(bc-ad\right) \left(bg-ah\right) \left(-\frac{d}{-bc+ad} + \frac{1}{a+bx}\right)}{bdg-bch}} - \left(-\frac{f}{-be+af} + \frac{1}{a+bx}\right) \right)$$

$$\sqrt{\frac{-\frac{h}{-be+af} + \frac{1}{a-bg+ah}}{-bg+ah}} - \left(\left(bdg-bch\right) EllipticE \left[-\frac{f}{-be+af} - \frac{1}{-bg+ah} - \frac{1}{-bg+ah}} \right) - \left(\left(bdg-bch\right) EllipticE \left[-\frac{f}{-be+af} - \frac{1}{-bg+ah}} \right) - \left(-\frac{f}{-be+af} - \frac{1}{-bg+ah} - \frac{1}{-bg+ah}} \right) \right)$$

$$(\left(bc-ad\right) \left(bg-ah\right) - \frac{1}{-bc+ad} dEllipticF \left[ArcSin \left[-\frac{f}{-be+af} - \frac{h}{(-dg+ch)} \right] \right)$$

$$\left(\left(bc-ad\right) \left(bg-ah\right) - \frac{1}{-bc+ad} dEllipticF \left[ArcSin \left[-\frac{f}{-bc+ad} - \frac{h}{(-dg+ch)} \right] \right)$$

$$\left(\left(b \, c - a \, d \right) \, \left(b \, g - a \, h \right) \right) = \frac{1}{-b \, c + a \, d} \, d \, \text{EllipticF} \left[\text{ArcSin} \left[\frac{\left(b \, e - a \, f \right) \, \left(h + \frac{b \, g}{a \, b \, k} - \frac{a \, h}{a \, b \, k} \right)}{b \, \left(- f \, g + e \, h \right)} \right], \frac{\left(- b \, c + a \, d \right) \, \left(- f \, g + e \, h \right)}{\left(- b \, e + a \, f \right) \, \left(- d \, g + c \, h \right)} \right] \right)$$

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

$$\left(a^2 \, b \, c \, C \, f \, h \, \sqrt{\frac{\left(b \, c \, - a \, d \right) \, \left(b \, g \, - a \, h \right) \, \left(-\frac{d}{-b \, c \, a \, d} + \frac{1}{a \, b \, k} \right)}}{b \, d \, g \, - b \, c \, h} \right) \left(-\frac{f}{-b \, e \, a \, f} + \frac{1}{a \, b \, k} \right) \right)$$

$$\left(\left(b \, c \, - a \, d \right) \, \left(b \, g \, - a \, h \right) \, \left(-\frac{f}{-b \, e \, a \, f} + \frac{1}{a \, b \, k} \right) \right)$$

$$\left(\left(b \, c \, - a \, d \right) \, \left(b \, g \, - a \, h \right) \, \left(-\frac{f}{-b \, e \, a \, f} \right) \, \left(-\frac{f}{-b \, e \, a \, f} \right) \left(-\frac{f}{-d \, e \, e \, h} \right) \right) \right] \right)$$

$$\left(\left(b \, c \, - a \, d \right) \, \left(b \, g \, - a \, h \right) \, \left(-\frac{1}{-b \, c \, a \, d} \, d \, EllipticF \left[ArcSin \left[-\frac{d}{-b \, c \, a \, d} \right) \, \left(-\frac{f}{-b \, e \, a \, f} \right) \, \left(-\frac{f}{-d \, g \, e \, h} \right) \right) \right] \right)$$

$$\left(\left(b \, c \, - a \, d \right) \, \left(b \, g \, - a \, h \right) \, \left(-\frac{1}{-b \, c \, a \, d} \, d \, EllipticF \left[ArcSin \left[-\frac{d}{-b \, e \, a \, f} \right) \, \left(-\frac{f}{-b \, e \, a \, f} \right) \, \left(-\frac{f}{-d \, g \, e \, h} \right) \right) \right)$$

$$\left(\left(b \, c \, - a \, d \right) \, \left(b \, g \, - a \, h \right) \, \left(-\frac{1}{-b \, c \, a \, d} \, d \, \left(-\frac{f}{-d \, g \, e \, h} \right) \right) \right)$$

$$\left(\left(b \, c \, - a \, d \right) \, \left(b \, g \, - a \, h \right) \, \left(-\frac{f}{-b \, e \, a \, f} \, \left(-\frac{f}{a \, b \, b \, k} \right) \right) \right)$$

$$\left(\left(b \, c \, - a \, d \right) \, \left(b \, g \, - a \, h \right) \, \left(-\frac{f}{-b \, e \, a \, f} \, \left(-\frac{f}{a \, b \, b \, k} \right) \right) \right)$$

$$\left(\left(b \, c \, - a \, d \right) \, \left(b \, g \, - a \, h \right) \, \left(-\frac{f}{-b \, e \, a \, f} \, \left(-\frac{f}{a \, b \, b \, k} \right) \right) \right)$$

$$\left(\left(b \, c \, - a \, d \right) \, \left(b \, g \, - a \, h \right) \, \left(-\frac{f}{-b \, e \, a \, f} \, \left(-\frac{f}{a \, b \, b \, k} \right) \right) \right)$$

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

$$ArcSin \Big[\sqrt{\frac{\left(be-af\right)\left(h+\frac{bg}{a+bx}-\frac{ah}{a+bx}\right)}{b\left(-fg+eh\right)}} \, \Big], \frac{\left(-bc+ad\right)\left(-fg+eh\right)}{\left(-be+af\right)\left(-dg+ch\right)} \Big] \Big/$$

$$\left(\left(bc-ad\right)\left(bg-ah\right) \right) - \frac{1}{-bc+ad} d Elliptic F \left[ArcSin \left[\frac{\sqrt{\frac{\left(be-af\right)\left(h+\frac{bg}{a+bx}-\frac{ah}{a+bx}\right)}{b\left(-fg+eh\right)}} \right]}{\left(-bc+ad\right)\left(-bg+ah\right)\left(-bg+eh\right)} \Big] \Big/$$

$$\left(\frac{-\frac{f}{-be+af}+\frac{1}{a+bx}}{b\left(-fg+eh\right)} \sqrt{\frac{\left(d+\frac{bc-ad}{a+bx}\right)\left(f+\frac{be-af}{a+bx}\right)\left(h+\frac{bg-ah}{a+bx}\right)}{\left(-bg+ah\right)\left(-bg+ah\right)}} \right) +$$

$$\left[2Ab^2 dfh \sqrt{\frac{-\frac{d}{-bc+ad}+\frac{1}{a+bx}}{-bc+ad}+\frac{1}{a+bx}} \sqrt{\frac{-\frac{f}{-be+af}+\frac{1}{a+bx}}{-be+af}+\frac{h}{a+bx}} \left(-\frac{h}{-bg+ah}+\frac{1}{a+bx} \right) \right] +$$

$$Elliptic F \left[ArcSin \left[\sqrt{\frac{\left(-be+af\right)\left(-h-\frac{bg}{a+bx}+\frac{ah}{a+bx}\right)}{b\left(-fg-eh\right)}} \right] , \frac{\left(-bc+ad\right)\left(-fg+eh\right)}{\left(-be+af\right)\left(-dg+ch\right)} \right] \Big] /$$

$$\left[\sqrt{\frac{-\frac{h}{-bg+ah}+\frac{1}{a+bx}}{-bc+ad}+\frac{1}{a+bx}}} \sqrt{\left(d+\frac{bc-ad}{a+bx}\right)\left(f+\frac{be-af}{a+bx}\right)\left(h+\frac{bg-ah}{a+bx}\right)} +$$

$$\left[2a^2 C dfh \sqrt{\frac{-\frac{d}{-bc+ad}+\frac{1}{a+bx}}{-bc+ad}+\frac{1}{a+bx}}} \sqrt{\frac{-\frac{f}{-be+af}+\frac{1}{a+bx}}{-be+af}+\frac{h}{-bg+ah}} \left(-\frac{h}{-bg+ah}+\frac{1}{a+bx} \right) \right] +$$

$$Elliptic F \left[ArcSin \left[\sqrt{\frac{\left(-be+af\right)\left(-h-\frac{bg+ah}{a+bx}+\frac{ah}{a+bx}\right)}{b\left(-fg+eh\right)}} \right] , \frac{\left(-bc+ad\right)\left(-fg+eh\right)}{\left(-be+af\right)\left(-dg+ch\right)} \right] /$$

$$\left[\sqrt{\frac{-\frac{h}{-bg+ah}+\frac{1}{a+bx}}{-bg+ah}} \sqrt{\left(d+\frac{bc-ad}{a+bx}\right)\left(f+\frac{be-af}{a+bx}\right)\left(h+\frac{bg-ah}{a+bx}\right)} \right] +$$

$$\left[\sqrt{\frac{-\frac{h}{-bg+ah}+\frac{1}{a+bx}}{-bg+ah}}} \sqrt{\left(d+\frac{bc-ad}{a+bx}\right)\left(f+\frac{be-af}{a+bx}\right)\left(h+\frac{bg-ah}{a+bx}\right)} \right] +$$

$$\left[\sqrt{\frac{-\frac{h}{-bg+ah}+\frac{1}{a+bx}}{-bg+ah}} \sqrt{\left(d+\frac{bc-ad}{a+bx}\right)\left(f+\frac{be-af}{a+bx}\right)\left(h+\frac{bg-ah}{a+bx}\right)} \right] +$$

$$\left[\sqrt{\frac{-\frac{h}{-bg+af}+\frac{1}{a+bx}}{-bg+ah}} \sqrt{\left(d+\frac{bc-ad}{a+bx}\right)\left(f+\frac{be-af}{a+bx}\right)\left(h+\frac{bg-ah}{a+bx}\right)} - \frac{\left(-bc+ad\right)\left(-fg+eh\right)}{\left(-bc+ad\right)\left(-bg+ah\right)} \right] +$$

$$\left[\sqrt{\frac{-\frac{h}{-bg+ah}+\frac{1}{a+bx}}{-bg+ah}}} \sqrt{\frac{-\frac{h}{-bg+ah}+\frac{1}{a+bx}}{-\frac{h}{-bg+ah}}} \sqrt{\frac{-\frac{h}{-bg+ah}+\frac{1}{a+bx}}{-\frac{h}{-bg+ah}}} - \frac{-\frac{h}{-bc+ad}+\frac{h}{-bg+ah}}{-\frac{h}{-bg+ah}} \sqrt{\frac{-\frac{h}{-bg+ah}+\frac{1}{a+bx}}{-\frac{h}{-bg+ah}}} - \frac{-\frac{h}{-bc+ad}+\frac{h}{-bg+ah}}{-\frac{h}{-bc+ad}+\frac{h}{-bg+ah}} - \frac{-\frac{h}{-bc+ad}+\frac{h}{-bg+ah}}{-\frac{h}{-bc+ad}+\frac{h}{-bg+ah}} - \frac{-\frac{h}{-bc+ad}$$

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

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

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

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

Problem 34: Result more than twice size of optimal antiderivative.

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

Optimal (type 4, 867 leaves, 9 steps):

$$\frac{2 \left(\text{Ab}^2 + \text{a}^2 \text{C} \right) \, d \sqrt{a + bx} \, \sqrt{e + fx} \, \sqrt{g + hx}}{b \left(b \, c - a \, d \right) \, \left(b \, e - a \, f \right) \, \left(b \, g - a \, h \right) \, \sqrt{c + dx}} - \frac{2 \left(\text{Ab}^2 + \text{a}^2 \, \text{C} \right) \, \sqrt{c + dx} \, \sqrt{g + hx}}{\left(b \, c - a \, d \right) \, \left(b \, g - a \, h \right) \, \sqrt{a + bx}} - \frac{2 \left(\text{Ab}^2 + \text{a}^2 \, \text{C} \right) \, \sqrt{c + dx} \, \sqrt{g + hx}}{\left(b \, c - a \, d \right) \, \left(b \, g - a \, h \right) \, \sqrt{a + bx}} - \frac{2 \left(\text{Ab}^2 + a^2 \, \text{C} \right) \, \sqrt{dg - c \, h} \, \sqrt{fg - e \, h} \, \sqrt{a + bx}}{\sqrt{fg - e \, h} \, \sqrt{c + dx}} - \frac{2 \left(\text{Ab}^2 + a^2 \, \text{C} \right) \, \left(\text{Ab}^2 + a^2 \, \text{C} \right) \, \sqrt{dg - c \, h} \, \sqrt{a + bx}} - \frac{\left(\text{Ab}^2 - c \, h \right) \, \left(\text{Ab}^2 - c \, h \right) \, \sqrt{a + bx}}{\sqrt{fg - e \, h} \, \sqrt{c + dx}} - \frac{\left(\text{Ab}^2 - c \, h \right) \, \left(\text{Ab}^2 - c \, h \right) \, \left(\text{Ab}^2 - c \, h \right) \, \left(\text{Ab}^2 - c \, h \right) \, \sqrt{\frac{\left(\text{Ab}^2 - c \, h \right) \, \left(\text{Ab}^2 - c \, h \right) \, \left(\text{Ab}^2 - c \, h \right) \, \left(\text{Ab}^2 - c \, h \right) \, \sqrt{\frac{\left(\text{Ab}^2 - c \, h \right) \, \left(\text{C} + d \, x \right)}{\left(\text{Ab}^2 - c \, h \right) \, \left(\text{Ab}^2 - c \, h \right) \, \left(\text{Ab}^2 - c \, h \right) \, \sqrt{\frac{\left(\text{Ab}^2 - c \, h \right) \, \left(\text{Ab}^2 - c \, h \right) \, \sqrt{\frac{\left(\text{Ab}^2 - c \, h \right) \, \left(\text{Ab}^2 - c$$

Result (type 4, 2103 leaves):

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

$$\frac{1}{\sqrt{c + \frac{(a + b \times) \left| d - \frac{a + b}{a + b \times} \right|}} \sqrt{e + \frac{(a + b \times) \left| f + \frac{a + b}{a + b \times} \right|}{b}} \sqrt{g + \frac{(a + b \times) \left| h - \frac{a + b}{a + b \times} \right|}{b}} \left(b c - a d \right) \left(b e - a f \right) } \\ \left(b g - a h \right) \left(a + b \chi \right)^{3/2} \sqrt{\left(\left(d + \frac{b c}{a + b \times} - \frac{a d}{a + b \times} \right) \left(f + \frac{b e}{a + b \times} - \frac{a f}{a + b \times} \right) \left(h + \frac{b g}{a + b \times} - \frac{a h}{a + b \times} \right) } \right) } \\ \left(\left(b d a - b c h \right) \left(b d g - a h \right) \left(-\frac{d}{a + b \times} - \frac{1}{a + b \times} \right) \sqrt{\frac{-\frac{h}{b + a + b} + \frac{1}{a + b \times}}{\frac{h}{b + a + b} + \frac{1}{a + b \times}}} \right) \sqrt{\frac{-\frac{h}{b + a + b} + \frac{1}{a + b \times}}{\frac{h}{b + a + b} + \frac{1}{a + b \times}}}} \right) \right) \\ \left(\left(b d g - b c h \right) \text{EllipticE} \left[\text{ArcSin} \left[\sqrt{\frac{\left(b e - a f \right) \left(h + \frac{b g}{a + b \times} - \frac{a h}{a + b \times} \right)}{b \left(- f g + e h \right)}} \right] \right) \\ \left(-\frac{1}{-b c + a d} \right) \left(-f g + e h \right) \\ \left(-b e + a f \right) \left(-d g + c h \right) \right) \right] \right) \\ \left(\sqrt{\frac{-\frac{f}{b - a d} + \frac{1}{a + b \times}}{-\frac{h}{b + a + b}}} \sqrt{\frac{\left(d + \frac{b c - a d}{a + b \times} \right) \left(f + \frac{b e - a f}{a + b \times} \right) \left(h + \frac{b g - a h}{a + b \times} \right)}}{b \left(-f g + e h \right)} \right) + \\ \left(-\frac{1}{a - b + a f} - \frac{h}{-b g + a h} - \frac{h}{-b g + a h}} \right) \left(-\frac{f}{-b e + a f} + \frac{1}{a + b \times} \right) \sqrt{\frac{-\frac{h}{-b g + a f} + \frac{1}{a + b \times}}{-\frac{h}{b e + a f} - \frac{h}{-b g + a h}}}} \\ \left(-\frac{\left(b c - a d \right) \left(b g - a h \right) \left(-\frac{d}{-b e + a f} + \frac{1}{a + b \times} \right) \sqrt{\frac{-\frac{h}{-b g + a f} + \frac{1}{a + b \times}}{-\frac{h}{b e + a f} - \frac{h}{-b g + a h}}}} \right)} \right) \\ \left(-\frac{\left(b c - a d \right) \left(b g - a h \right) \left(-\frac{d}{-b e + a f} + \frac{1}{a + b \times} \right) \sqrt{\frac{-\frac{h}{-b g + a f} + \frac{1}{a + b \times}}{-\frac{h}{b e + a f} - \frac{h}{-b g + a h}}}} \right)} \right) \\ \left(-\frac{\left(b c - a d \right) \left(b g - a h \right) \left(-\frac{h}{-b e + a f} + \frac{1}{a + b \times} \right) \sqrt{\frac{-\frac{h}{-b g + a f} + \frac{1}{a + b \times}}{-\frac{h}{b e + a f} - \frac{h}{-b g + a h}}}} \right)}}{b \left(-\frac{h}{-b e + a f} - \frac{h}{-b g + a f} - \frac{h}{-b g + a f}} \right)}{b \left(-\frac{h}{-b e + a f} - \frac{h}{-b g + a f} - \frac{h}{-b g + a f}} \right)}{b \left(-\frac{h}{-b e + a f} - \frac{h}{-b g + a f}} \right)}{b \left(-\frac{h}{-b e + a f} - \frac{h}{-b g + a f}} \right)}{b \left(-\frac{h}{-b e + a f} - \frac{h}{-b g + a f}} \right)}{b \left(-\frac{h}{-b e + a f} - \frac{h}{-b g + a f}} \right)}{b \left(-\frac{h}{-b e + a$$

$$\frac{\left(-b\,c + a\,d\right)\,\left(-f\,g + e\,h\right)}{\left(-b\,e + a\,f\right)\,\left(-d\,g + c\,h\right)} \right] \right)}{\left(-b\,e + a\,f\right)\,\left(-d\,g + c\,h\right)} \left(\int_{-\frac{b\,c + a\,d}{-b\,c + a\,f}}^{\frac{1}{-b\,c + a\,f}} \sqrt{\left(d + \frac{b\,c - a\,d}{a + b\,x}\right)\left(f + \frac{b\,e - a\,f}{a + b\,x}\right)\left(h + \frac{b\,g - a\,h}{a + b\,x}\right)} \right) - \\ \left(2\,a\,C\,\sqrt{\frac{-\frac{d}{-b\,c + a\,d} + \frac{1}{a + b\,x}}{-\frac{d}{-b\,c + a\,d} + \frac{h}{-b\,g + a\,h}}} \,\sqrt{\frac{-\frac{f}{-b\,e + a\,f} + \frac{1}{a + b\,x}}{-\frac{f}{-b\,e + a\,f} + \frac{h}{-b\,g + a\,h}}}{b\,\left(-f\,g + e\,h\right)}} \,\left(-\frac{h}{-b\,g + a\,h} + \frac{1}{a + b\,x}\right)} \right) - \\ EllipticF\left[ArcSin\left[\sqrt{\frac{\left(-b\,e + a\,f\right)\,\left(-h - \frac{b\,g}{-b\,b + a + b\,x} + \frac{a\,h}{a + b\,x}\right)}{b\,\left(-f\,g + e\,h\right)}}\right], \, \frac{\left(-b\,c + a\,d\right)\,\left(-f\,g + e\,h\right)}{\left(-b\,e + a\,f\right)\,\left(-d\,g + c\,h\right)}\right] \right] / \\ \left(\sqrt{\frac{-\frac{h}{-b\,g + a\,h} + \frac{1}{a + b\,x}}{-b\,g + a\,h}} \,\sqrt{\left(d + \frac{b\,c - a\,d}{a + b\,x}\right)\left(f + \frac{b\,e - a\,f}{a + b\,x}\right)\left(h + \frac{b\,g - a\,h}{a + b\,x}\right)} - \\ \left(C\,\left(-b\,g + a\,h\right)\left(-\frac{f}{-b\,e + a\,f} + \frac{h}{-b\,g + a\,h}\right)\sqrt{\frac{-\frac{d}{-b\,c + a\,d} + \frac{1}{a + b\,x}}{-\frac{d}{-b\,c + a\,d} + \frac{h}{-b\,g + a\,h}}}} \right) - \\ \sqrt{-\frac{\left(-\frac{f}{-b\,e + a\,f} + \frac{1}{a + b\,x}\right)\left(-\frac{h}{-b\,g + a\,h} + \frac{1}{a + b\,x}\right)}{\left(-\frac{f}{-b\,e + a\,f}\right)\left(-\frac{f}{-b\,e + a\,f}\right)}} \,EllipticPi\left[-\frac{b\,f\,g + b\,h}{\left(-b\,e + a\,f\right)\,h}, \\ -\frac{\left(-b\,f\,g + e\,h\right)}{b\,\left(-f\,g + e\,h\right)}\right] / \\ \sqrt{\left(d + \frac{b\,c - a\,d}{a + b\,x}\right)\left(f + \frac{b\,e - a\,f}{a + b\,x}\right)\left(h + \frac{b\,g - a\,h}{a + b\,x}\right)}} \right], \, \left(-b\,c + a\,d\right)\left(-f\,g + e\,h\right)}$$

Problem 35: Result more than twice size of optimal antiderivative.

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

Optimal (type 4, 1070 leaves, 8 steps):

$$- \left(\left(4 d \left(Ab^3 \left(deg + cefg + ceh \right) + a^3C \left(deg + deh + cefh \right) + a^2b \left(3Adfh - 2C \left(deg + cefg + ceh \right) \right) - ab^2 \left(2Ad \left(fg + eh \right) - c \left(3Ceg - 2Afh \right) \right) \right) \\ \sqrt{a + bx} \sqrt{e + fx} \sqrt{g + hx} \right) / \left(3 \left(bc - ad \right)^2 \left(be - af \right)^2 \left(bg - ah \right)^2 \sqrt{c + dx} \right) \right) - \\ \frac{2 \left(Ab^2 + a^2C \right) \sqrt{c + dx} \sqrt{e + fx} \sqrt{g + hx}}{3 \left(bc - ad \right) \left(be - af \right) \left(bg - ah \right) \left(a + bx \right)^{3/2}} \right)^{\frac{1}{2}} \\ \left(4b \left(Ab^3 \left(deg + cefg + ceh \right) + a^3C \left(deg + deh + cefh \right) + a^2b \left(3Adfh - 2C \left(deg + cefg + ceh \right) \right) - ab^2 \left(2Ad \left(fg + eh \right) - c \left(3Ceg - 2Afh \right) \right) \right) \sqrt{c + dx} \sqrt{e + fx} \sqrt{g + hx} \right) / \\ \left(3 \left(bc - ad \right)^2 \left(be - af \right)^2 \left(bg - ah \right)^2 \sqrt{a + bx} \right) + \left(4\sqrt{dg - ch} \sqrt{fg - eh} \right) \\ \left(Ab^3 \left(deg + cefg + ceh \right) + a^2C \left(deg + deh + cefh \right) + a^2b \left(3Adfh - 2C \left(deg + cefg + ceh \right) \right) - ab^2 \left(2Ad \left(fg + eh \right) - c \left(3Ceg - 2Afh \right) \right) \right) \sqrt{a + bx} \sqrt{-\frac{(de - cef) \left(g + hx \right)}{(fg - eh) \left(c + dx \right)}} \\ EllipticE \left[ArcSin \left[\frac{\sqrt{dg - ch} \sqrt{e + fx}}{\sqrt{fg - eh} \sqrt{c + dx}} \right], \frac{(bc - ad) \left(fg - eh \right)}{(be - af) \left(dg - ch \right)} \right] / \\ \left(3 \left(bc - ad \right)^2 \left(be - af \right)^2 \left(bg - ah \right)^2 \sqrt{\frac{(de - cef) \left(a + bx \right)}{(be - af) \left(c + dx \right)}} \sqrt{\frac{g + hx}{(de - cef) \left(a + bx \right)}} \right) - \\ \left(2 \left(3ab \left(c^2C + Ad^2 \right) \left(fg + eh \right) - b^2 \left(2Ad^2eg + Acd \left(fg + eh \right) + c^2 \left(3Ceg - Ae h \right) \right) - a^2 \left(3Ad^2eh - C \left(d^2eg - cefg - ceh - 2c^2eh \right) \right) \right) \sqrt{\frac{(be - ae) \left(c + dx \right)}{(de - cef) \left(a + bx \right)}}} \right) - \\ \sqrt{g + hx} \ EllipticF \left[ArcSin \left[\frac{\sqrt{bg - ah} \sqrt{e + fx}}{\sqrt{fg - eh} \sqrt{a + bx}} \right], - \frac{(bc - ae) \left(fg - eh \right)}{(de - cef) \left(bg - ah \right)} \right] / \\ \left(3 \left(bc - ad \right)^2 \left(be - ae \right) \left(bg - ah \right)^{3/2} \sqrt{fg - eh} \sqrt{c + dx}} \sqrt{-\frac{(be - ae) \left(g + hx \right)}{(fg - eh) \left(a + bx \right)}} \right)$$

Result (type 4, 11 160 leaves):

$$\left(\sqrt{\frac{-\frac{f}{-be+af} + \frac{1}{a+bx}}{-\frac{b+a+b}{-be+af} + \frac{b}{-bg+ah}}} \sqrt{\left(d + \frac{bc-ad}{a+bx}\right) \left(f + \frac{be-af}{a+bx}\right) \left(h + \frac{bg-ah}{a+bx}\right)} + \frac{1}{a+bx} \right) + \frac{1}{a+bx}$$

$$\left(2Ab^3 cfg \sqrt{\frac{\left(bc-ad\right) \left(bg-ah\right) \left(-\frac{d}{-bc+ad} + \frac{1}{a+bx}\right)}{bdg-bch}} - \left(-\frac{f}{-be+af} + \frac{1}{a+bx}\right) \right) + \frac{1}{a+bx}$$

$$\sqrt{\frac{-\frac{h}{-be+af} + \frac{1}{a+bx}}{-bg+ah}} - \left(\left(bdg-bch\right) \text{EllipticE} \right) + \frac{1}{a+bx}$$

$$\sqrt{\frac{\left(be-af\right) \left(h + \frac{bg}{a+bx} - \frac{ah}{a+bx}\right)}{b\left(-fg+eh\right)}} \right] - \frac{\left(-bc+ad\right) \left(-fg+eh\right)}{\left(-be+af\right) \left(-dg+ch\right)} \right]$$

$$\left(\left(bc-ad\right) \left(bg-ah\right) \right) - \frac{1}{-bc+ad} d \text{EllipticF} \left[ArcSin \right]$$

$$\sqrt{\frac{\left(be-af\right) \left(h + \frac{bg}{a+bx} - \frac{ah}{a+bx}\right)}{b\left(-fg+eh\right)}} \right] , \frac{\left(-bc+ad\right) \left(-fg+eh\right)}{\left(-be+af\right) \left(-dg+ch\right)} \right]$$

$$\sqrt{\frac{-\frac{f}{-be+af} + \frac{1}{a+bx}}{-bg+ah}} \sqrt{\left(d + \frac{bc-ad}{a+bx}\right) \left(f + \frac{be-af}{a+bx}\right) \left(h + \frac{bg-ah}{a+bx}\right)} -$$

$$\sqrt{\frac{a^2bcCfg}{bdg-bch}} \sqrt{\frac{\left(bc-ad\right) \left(bg-ah\right) \left(-\frac{d}{-bc+ad} + \frac{1}{a+bx}\right)}{bdg-bch}} - \frac{f}{-be+af} + \frac{1}{a+bx}$$

$$\sqrt{\frac{-\frac{h}{-be+af} + \frac{1}{a+bx}}{-bg+ah}} - \left(\left(bdg-bch\right) \text{EllipticE} \right)$$

$$\sqrt{\frac{-bc+ad}{-be+af} - \frac{h}{-bg+ah}} - \left(\left(bdg-bch\right) \text{EllipticE} \right)$$

$$\sqrt{\frac{-bc+ad}{-be+af} - \frac{h}{-bg+ah}}} - \left(\left(bdg-bch\right) \text{EllipticE} \right)$$

$$\sqrt{\frac{-bc+ad}{-be+af} - \frac{h}{-bg+ah}} - \left(\left(bdg-bch\right) \text{EllipticE} \right)$$

$$\sqrt{\frac{-bc+ad}{-be+af} - \frac{h}{-bg+ah}}} - \left(\left(bdg-bch\right) \text{EllipticE} \right)$$

$$\sqrt{\frac{-bc+ad}{-be+af} - \frac{h}{-bg+ah}} - \left(\left(bdg-bch\right) \text{EllipticE} \right)$$

$$\sqrt{\frac{-bc+ad}{-be+af} - \frac{h}{-bg+ah}}} - \left(\left(bdg-bch\right) \text{EllipticE} \right)$$

$$\sqrt{\frac{-bc+ad}{-be+af} - \frac{h}{-bg+ah}}} - \left(\left(bdg-bch\right) \text{EllipticE} \right)$$

$$\sqrt{\frac{-bc+ad}{-be+af} - \frac{h}{-bg+ah}}} - \left(\left(bdg-bch\right) + \frac{bg-ah}{-bg+ah}} \right)$$

$$\sqrt{\frac{-bc+ad}{-be+af} - \frac{h}{-bg+ah}}} - \left(\left(bdg-bch\right) + \frac{bg-ah}{-bg+ah}} \right)$$

$$\sqrt{\frac{-bc+ad}{-bg+af} - \frac{h}{-bg+ah}}} - \left(\left(bdg-bch\right) + \frac{bg-ah}{-bg+ah}} \right)$$

$$\sqrt{\frac{-bc+ad}{-bg+af} - \frac{h}{-bg+ah}}} - \left(\left(bdg-bch\right) + \frac{bg-ah}{-bg+ah}} \right)$$

$$\sqrt{\frac{-bc+ad}{-bg+af} - \frac{h}{-bg+ah}}} - \sqrt{\frac{-bc+ad}{-bg+ah}}} - \sqrt{\frac{-bc+ad}{-bg+ah}}} - \sqrt{\frac{-bc+ad}{-bg+ah}}} - \sqrt{\frac{-bc+ad}{-bg+ah}}} - \sqrt{\frac{-bc+ad}{-bg+ah}}} - \sqrt{\frac{-bc+a$$

$$\left(\left(b \, c - a \, d \right) \, \left(b \, g - a \, h \right) \right) - \frac{1}{-b \, c + a \, d} \, d \, \text{EllipticF} \left[\text{ArcSin} \left[\frac{\left(b \, e - a \, f \right) \, \left(h + \frac{b \, g}{a + b \, x} - \frac{a \, h}{a + b \, x} \right)}{b \, \left(- f \, g + e \, h \right)} \right], \frac{\left(- b \, c + a \, d \right) \, \left(- f \, g + e \, h \right)}{\left(- b \, e + a \, f \right) \, \left(- d \, g + c \, h \right)} \right] \right)$$

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

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

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

$$\left(\left(b \, c \, - a \, d \right) \, \left(b \, g \, - a \, h \right) \right) - \frac{1}{-b \, c \, + a \, d} \, d \, \text{EllipticF} \left[\text{ArcSin} \left[\frac{\left(b \, e \, - a \, f \right) \, \left(-h \, g \, + e \, h \right)}{b \, \left(- f \, g \, + e \, h \right)} \right] \right) \right)$$

$$\left(\left(b \, c \, - a \, d \right) \, \left(b \, g \, - a \, h \right) \right) - \frac{1}{-b \, c \, - a \, d} \, d \, \text{EllipticF} \left[\text{ArcSin} \left[\frac{\left(b \, e \, - a \, f \right) \, \left(-h \, g \, + e \, h \right)}{b \, \left(-f \, g \, + e \, h \right)} \right] \right) \right)$$

$$\left(\left(b \, c \, - a \, d \right) \, \left(b \, g \, - a \, h \right) \right) - \frac{1}{-b \, c \, - a \, d} \, d \, \text{EllipticF} \left[\text{ArcSin} \left[\frac{\left(b \, e \, - a \, f \right) \, \left(-h \, g \, + e \, h \right)}{b \, \left(-f \, g \, + e \, h \right)} \right) \right) \right) \right)$$

$$\left(\left(b \, c \, - a \, d \right) \, \left(b \, g \, - a \, h \right) \right) \right) - \frac{1}{-b \, c \, - a \, d} \, d \, \text{EllipticF} \left[\text{ArcSin} \left[\frac{\left(b \, e \, - a \, f \right) \, \left(-h \, g \, + e \, h \right)}{b \, \left(-f \, g \, + e \, h \right)} \right) \right) \right) \right)$$

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

$$\left(\left(b \, c \, - a \, f \right) \, \left(\left(b \, d \, g \, - a \, h \right) \, \left(-h \, g \, - a \, h \right) \right) \right) \right)$$

$$\left(\left(b \, c \, - a \, d \right) \, \left(b \, g \, - a \, h \right) \, \left(-h \, g \, - a \, h \right) \, \left(-h \, g \, - a \, h \right$$

$$ArcSin\Big[\sqrt{\frac{\left(be-af\right)\left(h+\frac{bg}{a+bx}-\frac{ah}{a+bx}\right)}{b\left(-fg+eh\right)}}\Big], \frac{\left(-bc+ad\right)\left(-fg+eh\right)}{\left(-be+af\right)\left(-dg+ch\right)}\Big] \Bigg]$$

$$\left(\left(bc-ad\right)\left(bg-ah\right)\right) - \frac{1}{-bc+ad}dEllipticF\Big[ArcSin\Big[\\ \sqrt{\frac{\left(be-af\right)\left(h+\frac{bg}{a+bx}-\frac{ah}{a+bx}\right)}{b\left(-fg+eh\right)}}\Big], \frac{\left(-bc+ad\right)\left(-fg+eh\right)}{\left(-be+af\right)\left(-dg+ch\right)}\Big] \Bigg] \Bigg/$$

$$\left(\sqrt{\frac{-\frac{f}{-be+af}+\frac{1}{a+bx}}{-bg+ah}}\sqrt{\left(d+\frac{bc-ad}{a+bx}\right)\left(f+\frac{be-af}{a+bx}\right)\left(h+\frac{bg-ah}{a+bx}\right)} - \frac{1}{-be+af} + \frac{1}{a+bx} \right)$$

$$-\frac{h}{-be+af} + \frac{1}{a+bx} - \frac{h}{a+bx} - \frac{h}{a+bx}}{b\left(-fg+eh\right)} - \frac{1}{-bc+ad} + \frac{1}{a+bx} \right)$$

$$-\frac{h}{-be+af} - \frac{h}{-bg+ah}} - \frac{1}{-bg+ah} - \frac{1}{a+bx} - \frac{1}{a+bx} - \frac{ah}{a+bx}}{b\left(-fg+eh\right)} - \frac{1}{-bc+ad} - \frac{1}{a+bx} - \frac{1}{a+bx} - \frac{1}{a+bx} - \frac{1}{a+bx}}{b\left(-be+af\right)\left(-bg+ah\right)} - \frac{1}{-bc+ad} - \frac{1}{a+bx} - \frac{1}{a+bx} - \frac{1}{a+bx} - \frac{1}{a+bx}}{b\left(-bg+ah\right)} - \frac{1}{-bc+ad} - \frac{1}{a+bx} - \frac{$$

$$\frac{-\frac{h}{-bg:ah} + \frac{1}{a\cdot bx}}{\frac{-h}{-be:af} - \frac{h}{-bg:ah}} \left(-\left[\left(b \, dg - b \, c \, h \right) \, EllipticE \right] \right)$$

$$ArcSin \left[\sqrt{\frac{\left(b \, e - a \, f \right) \, \left(h + \frac{bg}{a \cdot bx} - \frac{ah}{a \cdot bx} \right)}{b \, \left(-f \, g + e \, h \right)}} \right], \frac{\left(-b \, c + a \, d \right) \, \left(-f \, g + e \, h \right)}{\left(-b \, e + a \, f \right) \, \left(-d \, g + c \, h \right)} \right] \right)$$

$$\left(\left(b \, c - a \, d \right) \, \left(b \, g - a \, h \right) \right) - \frac{1}{-b \, c + a \, d} \, d \, EllipticF \left[ArcSin \left[\frac{\left(b \, e - a \, f \right) \, \left(h + \frac{bg}{a \cdot bx} - \frac{ah}{a \cdot bx} \right)}{b \, \left(-f \, g + e \, h \right)} \right] \right) \right)$$

$$\sqrt{\frac{-\frac{f}{-be:af} + \frac{1}{a \cdot bx}}{-bg:ah}} \sqrt{\left(d + \frac{b \, c - a \, d}{a \cdot bx} \right) \left(f + \frac{b \, e - a \, f}{a \cdot bx} \right) \left(h + \frac{b \, g - a \, h}{a \cdot bx} \right)} -$$

$$\sqrt{\frac{-h}{-be:af} + \frac{1}{a \cdot bx}} \sqrt{\left(d + \frac{b \, c - a \, d}{a \cdot bx} \right) \left(f + \frac{b \, e - a \, f}{a \cdot bx} \right) \left(h + \frac{b \, g - a \, h}{a \cdot bx} \right)} -$$

$$\sqrt{\frac{-h}{-be:af} + \frac{1}{a \cdot bx}} \sqrt{\frac{\left(b \, c - a \, d \right) \, \left(b \, g - a \, h \right) \left(-\frac{d}{-bc:ad} + \frac{1}{a \cdot bx} \right)}{b \, d \, g - b \, ch}} \left[-\frac{f}{-be:af} + \frac{1}{a \cdot bx} \right)$$

$$\sqrt{\frac{\left(b \, c - a \, d \right) \, \left(b \, g - a \, h \right) \left(-\frac{d}{a \cdot bx} - \frac{a \, h}{a \cdot bx} \right)}{b \, \left(-f \, g + e \, h \right)}} \right], \frac{\left(-b \, c + a \, d \right) \, \left(-f \, g + e \, h \right)}{\left(-b \, e + a \, f \right) \, \left(-d \, g + c \, h \right)} \right] \right)$$

$$\left(\left(b \, c - a \, d \right) \, \left(b \, g - a \, h \right) \right) - \frac{1}{-b \, c + a \, d} \, d \, EllipticF \left[ArcSin \left[\frac{d \, b \, c - a \, d}{a \cdot bx} \right] \left(-b \, c + a \, d \right) \, \left(-f \, g + e \, h \right)}{\left(-b \, e + a \, f \right) \, \left(-d \, g + c \, h \right)} \right] \right)$$

$$\left(\left(b \, c - a \, f \right) \, \left(h + \frac{bg}{a \cdot bx} - \frac{a \, h}{a \cdot bx} \right) \left(-b \, c + a \, d \right) \, \left(-f \, g + e \, h \right)}{\left(-b \, c + a \, f \right) \, \left(-d \, g + c \, h \right)} \right) \right)$$

$$\left(\left(b \, c - a \, f \right) \, \left(h + \frac{bg}{a \cdot bx} - \frac{a \, h}{a \cdot bx} \right) \left(-b \, c + a \, d \right) \, \left(-f \, g + e \, h \right)}{\left(-b \, c + a \, f \right) \, \left(-d \, g + c \, h \right)} \right) \right)$$

$$\left(\left(b \, c - a \, f \right) \, \left(h + \frac{bg}{a \cdot bx} - \frac{a \, h}{a \cdot bx} \right) \left(-d \, f \, g + b \, f \right) \right) \right)$$

$$\left(\left(b \, c - a \, f \right) \, \left(h \, c - a \, f \right) \, \left(h \, c - a \, f \right) \, \left(h \, c - a \, f \right) \, \left(h \, f \, f \right) \right) \right)$$

$$\left(\sqrt{\frac{-\frac{f}{-be+af} + \frac{1}{a+bx}}{-\frac{h}{-be+af}}} \sqrt{\left(d + \frac{bc-ad}{a+bx}\right) \left(f + \frac{be-af}{a+bx}\right) \left(h + \frac{bg-ah}{a+bx}\right)} - \frac{1}{a+bx} \sqrt{\frac{-\frac{f}{-be+af} + \frac{1}{a+bx}}{-\frac{h}{-be+af} + \frac{h}{-bg+ah}}} \sqrt{\frac{-\frac{f}{-be+af} + \frac{1}{a+bx}}{-\frac{f}{-be+af} + \frac{h}{-bg+ah}}} \left(-\frac{h}{-bg+ah} + \frac{1}{a+bx} \right)$$

$$= EllipticF \left[ArcSin \left[\sqrt{\frac{(-be+af) \left(-h - \frac{bg}{a+bx} + \frac{ah}{a+bx}\right)}{b \left(-fg+eh\right)}} \right], \frac{(-bc+ad) \left(-fg+eh\right)}{(-be+af) \left(-dg+ch\right)} \right] /$$

$$= \left(\sqrt{\frac{-\frac{h}{-be+af} + \frac{1}{a+bx}}{-\frac{h}{-be+af} - \frac{h}{-bg+ah}}} \sqrt{\left(d + \frac{bc-ad}{a+bx}\right) \left(f + \frac{be-af}{a+bx}\right) \left(h + \frac{bg-ah}{a+bx}\right)} \right], \frac{(-bc+ad) \left(-fg+eh\right)}{(-be+af) \left(-dg+ch\right)} \right] /$$

$$= \left(\sqrt{\frac{-\frac{h}{-be+af} + \frac{1}{a+bx}}{-\frac{h}{-be+af} - \frac{h}{-bg+ah}}} \sqrt{\left(d + \frac{bc-ad}{a+bx} - \frac{-\frac{f}{-be+af} + \frac{1}{a+bx}}{-\frac{f}{-be+af} + \frac{a+bx}{a+bx}}} \right) - \frac{h}{-bg+ah} + \frac{1}{a+bx}} \right)$$

$$= EllipticF \left[ArcSin \left[\sqrt{\frac{(-be+af) \left(-h - \frac{bg}{a+bx} + \frac{ah}{a+bx}\right)}{b \left(-fg+eh\right)}} \right], \frac{(-bc+ad) \left(-fg+eh\right)}{(-be+af) \left(-dg+ch\right)} \right] /$$

$$= \left(\sqrt{\frac{-\frac{h}{-bg+ah} + \frac{1}{a+bx}}{-\frac{h}{-bg+ah} + \frac{1}{a+bx}}} \sqrt{\left(d + \frac{bc-ad}{a+bx}\right) \left(f + \frac{be-af}{a+bx} + \frac{h}{-bg+ah}} - \frac{h}{-bg+ah} + \frac{1}{a+bx}} \right)$$

$$= \left(\sqrt{\frac{-\frac{h}{-bg+ah} + \frac{1}{a+bx}}{-\frac{h}{-bg+ah} + \frac{1}{a+bx}}} \sqrt{\left(d + \frac{bc-ad}{a+bx}\right) \left(f + \frac{be-af}{a+bx} + \frac{h}{-bg+ah}} - \frac{h}{-bg+ah} + \frac{1}{a+bx}} \right) + \frac{(-bc+ad) \left(-fg+eh\right)}{(-be+af) \left(-dg+ch\right)} \right] /$$

$$= \left(\sqrt{\frac{-\frac{h}{-bg+ah} + \frac{1}{a+bx}}{-\frac{h}{-bg+ah} + \frac{1}{a+bx}}} \sqrt{\left(d + \frac{bc-ad}{a+bx}\right) \left(f + \frac{be-af}{a+bx}\right) \left(h + \frac{bg-ah}{a+bx}\right)} + \frac{1}{-bg+ah} + \frac{1}{a+bx}} \right) + \frac{(-bc+ad) \left(-fg+eh\right)}{-\frac{h}{-be+af} + \frac{h}{-abx}}} - \frac{h}{-\frac{h}{-bg+ah} + \frac{h}{a+bx}} \sqrt{\left(d + \frac{bc-ad}{a+bx}\right) \left(f + \frac{h}{a+bx}\right) \left(h + \frac{h}{a+bx}\right)} + \frac{h}{-bg+ah} + \frac{h}{-bg+ah}} - \frac{h}{-bg+ah} + \frac{h}{a+bx}} - \frac{h}{-bg+ah} + \frac{h}{-bg+ah}} - \frac{h}{-bg+ah} + \frac{h}{-bg+ah} - \frac{h}{-bg+ah} + \frac{h}{-bg+ah} - \frac{h}{-bg+ah} + \frac{h}{-bg+ah}} - \frac{h}{-bg+ah} + \frac{h}{-bg+ah} - \frac{h}{-bg+ah} - \frac{h}{-bg+ah} + \frac{h}{-bg+ah} - \frac{h}{-bg+ah} + \frac{h}{-bg+ah} - \frac{h}{-bg+ah} + \frac{h}{-bg+ah} - \frac{h}{-bg+ah} - \frac{h}{-bg+ah} - \frac{h}{-bg+a$$

$$\begin{split} & \text{EllipticF} \Big[\text{ArcSin} \Big[\sqrt{\frac{\left(-b \, e \, a \, f \right) \left(-h \, -\frac{b \, g}{a \, b \, x} + \frac{a \, h}{a \, b \, x} \right)}{b \left(-f \, g \, e \, h \right)}} \, \Big], \, \frac{\left(-b \, c \, a \, d \right) \left(-f \, g \, e \, h \right)}{\left(-b \, e \, a \, f \right) \left(-d \, g \, c \, c \, h \right)} \, \Big] \bigg/}{\left(-b \, e \, a \, f \right)} \, \sqrt{\left(d \, + \frac{b \, c \, -a \, d}{a \, a \, b \, x} \right) \left(f \, + \frac{b \, e \, -a \, f}{a \, a \, b \, x} \right) \left(h \, + \frac{b \, g \, -a \, h}{a \, a \, b \, x} \right)} \, - \\ & \left(2 \, a^2 \, C \, d \, f \, g \, \sqrt{\frac{-\frac{d}{-b \, c \, a \, d} + \frac{1}{a \, a \, b \, x}}{-\frac{d}{-b \, c \, a \, d} + \frac{1}{b \, a \, b \, x}}} \, \sqrt{\frac{-\frac{f}{-b \, e \, a \, f} + \frac{1}{a \, a \, b \, x}}{-\frac{f}{-b \, e \, a \, f} + \frac{1}{a \, b \, a \, b \, x}}} \, \left(-\frac{h}{-b \, g \, a \, h} + \frac{1}{a \, a \, b \, x} \right) \right. \\ & \left(-b \, g \, +a \, h \right) \left(-h \, - \frac{b \, g}{-b \, a \, b \, x} + \frac{a \, h}{a \, b \, x} \right)}{\left(-b \, e \, a \, f \right) \left(-b \, e \, a \, f \right) \left(-h \, e \, a \, f \right)} \, \left(-b \, e \, a \, f \right) \left(-d \, g \, +e \, h \right) \right] \right. \\ & \left(-\frac{h}{-b \, g \, a \, h} + \frac{1}{a \, a \, b \, x} \right) \left(-\frac{f}{-b \, e \, a \, f} + \frac{a \, h}{a \, b \, x} \right) \left(-\frac{h}{-b \, e \, a \, f} \right) \left(-d \, g \, +e \, h \right) \right] \right. \\ & \left(-\frac{h}{-b \, g \, a \, h} + \frac{1}{a \, a \, b \, x} \right) \left(-\frac{f}{-b \, e \, a \, f} + \frac{a \, h}{a \, b \, x} \right) \left(-\frac{h}{-b \, g \, a \, h} + \frac{1}{a \, a \, b \, x} \right) \right. \\ & \left(-\frac{h}{-b \, g \, a \, h} + \frac{1}{a \, a \, b \, x} \right) \left(-\frac{h}{-b \, e \, a \, f} + \frac{1}{a \, b \, a \, b \, x} \right) \left. -\frac{f}{-b \, e \, a \, f} + \frac{h}{-b \, g \, a \, h} \right. \\ & \left(-\frac{h}{-b \, g \, a \, h} + \frac{1}{a \, a \, b \, x} \right) \left. -\frac{h}{-b \, e \, a \, f} + \frac{h}{-b \, g \, a \, h} \right. \\ & \left(-\frac{h}{-b \, g \, a \, h} + \frac{1}{a \, a \, b \, x} \right) \left. -\frac{h}{-b \, e \, a \, f} + \frac{h}{-b \, g \, a \, h} \right. \\ & \left(-\frac{h}{-b \, g \, a \, h} + \frac{1}{a \, a \, b \, x} \right) \left. -\frac{h}{-b \, e \, a \, f} + \frac{h}{-b \, a \, b \, x} \right) \left. -\frac{h}{-b \, e \, a \, f} + \frac{h}{-b \, a \, b \, x} \right) \right. \\ & \left(-\frac{h}{-b \, e \, a \, f} + \frac{h}{-b \, a \, b \, x} \right) \left. -\frac{h}{-b \, e \, a \, f} + \frac{h}{-b \, a \, b \, x} \right) \left. -\frac{h}{-b \, e \, a \, f} + \frac{h}{-b \, a \, b \, x} \right) \right. \\ & \left(-\frac{h}{-b \, e \, a \, f} + \frac{h}{-b \, a \, b \, x} \right) \left. -\frac{h}{-b \, e \, a \, f} + \frac{h}{-b \, a \, b \, x} \right) \left. -\frac{h}{-b \, e \, a \, f} + \frac{h}{-b$$

$$\left\{ 2\, a^2\, C\, d\, e\, h\, \sqrt{ -\frac{d}{-b\, c+ad} + \frac{1}{a\, b\, b} \atop -\frac{d}{-b\, c+ad} + \frac{h}{a\, b\, b}} } \, \sqrt{ -\frac{f}{-b\, e+af} + \frac{1}{a\, b\, b} \atop -\frac{f}{-b\, e+af} + \frac{h}{-b\, g+ah}} } \, \left(-\frac{h}{-b\, g+a\, h} + \frac{1}{a+b\, x} \right) \right.$$

$$EllipticF\left[ArcSin \left[\sqrt{ \frac{(-b\, e+a\, f)\, \left(-h - \frac{b\, g}{a\, b\, b\, x} + \frac{a\, h}{a\, b\, b\, x} \right)}{b\, \left(-f\, g+e\, h \right) }} \, \right], \, \frac{(-b\, c+a\, d)\, \left(-f\, g+e\, h \right)}{\left(-b\, e+a\, f \right)\, \left(-d\, g+c\, h \right)} \, \right] \right/$$

$$\left[\sqrt{ \frac{h}{-b\, e+a\, f} + \frac{1}{-b\, g+ah}} \, \sqrt{ \left(d + \frac{b\, c-a\, d}{a+b\, x} \right) \left(f + \frac{b\, e-a\, f}{a+b\, x} \right) \left(h + \frac{b\, g-a\, h}{a+b\, x} \right)} \right], \, \frac{(-b\, c+a\, d)\, \left(-f\, g+e\, h \right)}{\left(-b\, e+a\, f \right)\, \left(-b\, e+a\, f \right)} \, \left(-\frac{h}{-b\, e+a\, f} + \frac{1}{a+b\, x} \right) \right.$$

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

$$EllipticF\left[ArcSin \left[\sqrt{ \frac{(-b\, e+a\, f)\, \left(-h - \frac{b\, g}{a+b\, x} + \frac{a\, h}{a+b\, x} \right)}{b\, \left(-f\, g+e\, h \right)} \, \right], \, \frac{(-b\, c+a\, d)\, \left(-f\, g+e\, h \right)}{\left(-b\, e+a\, f \right)\, \left(-d\, g+c\, h \right)} \right] \right/$$

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

$$EllipticF\left[ArcSin \left[\sqrt{ \frac{(-b\, e+a\, f)\, \left(-h - \frac{b\, g}{-a\, f} + \frac{1}{a+b\, x} \right)}{b\, \left(-f\, g+e\, h \right)} \, \left(-\frac{h}{-b\, g+a\, h} + \frac{1}{a+b\, x} \right) \right.$$

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

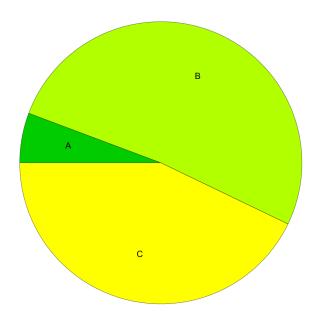
$$\left[\sqrt{ \frac{h}{-\frac{h}{a+b\, a+b\, x}} \, \sqrt{ \left(\frac{h}{-\frac{h}{a+b\, x} + \frac{h}{a+b\, x}} \, \sqrt{ \frac{h}{-\frac{h}{a+b\, x} + \frac{h}{a+b\, x}} \, \sqrt{ \frac{h}{-\frac{h}{a+b\, x} + \frac{h}{a+b\, x}}} \, \left(-\frac{h}{-b\, g+a\, h} + \frac{1}{a+b\, x} \right) \right.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

$$\left[\sqrt{ \frac{h}{-\frac{h}{a+b\, a+b\, x}} \, \sqrt{ \frac{h}{-\frac{h}{a+b\, a+b\, x}} \, \sqrt{ \frac{h}{-\frac{h}{a+b\, a+b\, x}} \, \sqrt{ \frac{h}{-\frac{h}{a+b\, a+b\, x}$$

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

Summary of Integration Test Results

35 integration problems



- A 2 optimal antiderivatives
- B 18 more than twice size of optimal antiderivatives
- C 15 unnecessarily complex antiderivatives
- D 0 unable to integrate problems
- E 0 integration timeouts