**FORMULA 4.242.1**

$$\int_0^\infty \frac{\ln x \, dx}{\sqrt{(x^2 + a^2)(x^2 + b^2)}} = \frac{1}{2a}\mathbf{K}\left(\frac{\sqrt{a^2 - b^2}}{a}\right)\ln ab \quad a > b > 0$$