Upper
$$\frac{2\,A^2\left(-2+v\,\text{Tanh}\left[\frac{v}{2}\right]\right)}{v^9}$$

Lower
$$\frac{2\,A^2\left(-2+v\,\text{Tanh}\left[\frac{v}{2}\right]\right)}{v^9}$$

Equal   True