FORMULA 4.241.2

$$\int_0^1 \frac{x^{2n+1} \ln x \, dx}{\sqrt{1-x^2}} = \frac{(2n)!!}{(2n+1)!!} \frac{\pi}{2} \left(\ln 2 - \sum_{k=1}^{2n+1} \frac{(-1)^{k-1}}{k} \right)$$