FORMULA 3.833.1

$$\int_0^\infty \sin^{2m+1} x \cos^{2n} x \frac{dx}{x} = \int_0^\infty \sin^{2m+1} x \cos^{2n-1} x \frac{dx}{x} = \frac{(2m-1)!!\,(2n-1)!!}{2^{m+n+1}\,(m+n)!}$$
$$= \frac{1}{2} B\left(m+\frac{1}{2}, n+\frac{1}{2}\right)$$