Worksheet: Integrals of powers of $\sin$ and $\cos$

Compute these integrals with a group, if possible!

A. $\displaystyle\int_{\pi/4}^{\pi/3} \cos^4 x \sin x \, dx =$

B. $\displaystyle\int \cos^3 x \sin^4 x \, dx =$

C. $\displaystyle\int \sin^2(4x) \, dx =$

D. $\displaystyle\int e^{\sin x} \cos^3 x \, dx =$

E. $\displaystyle\int \sin 2x \cos x \, dx =$