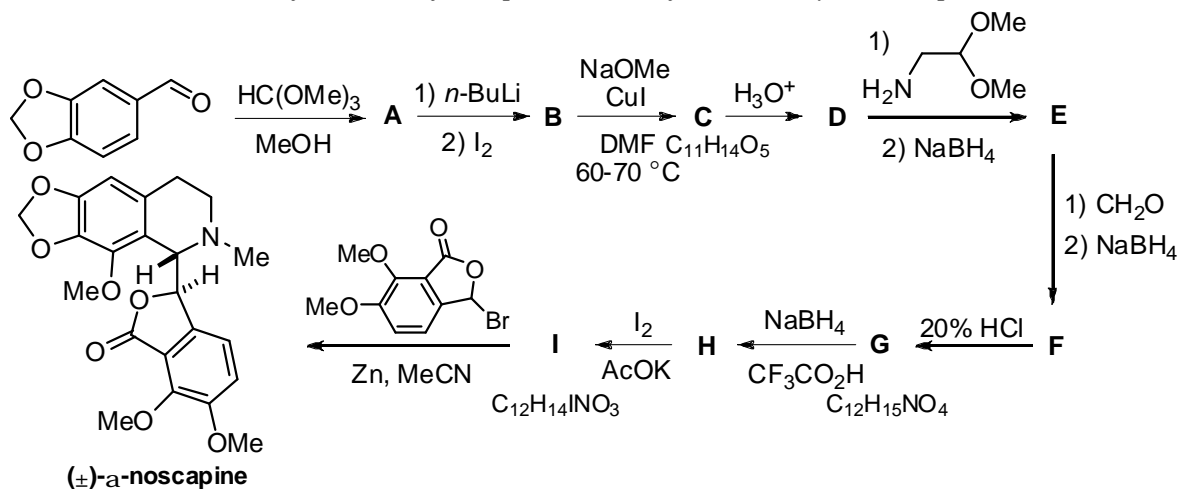


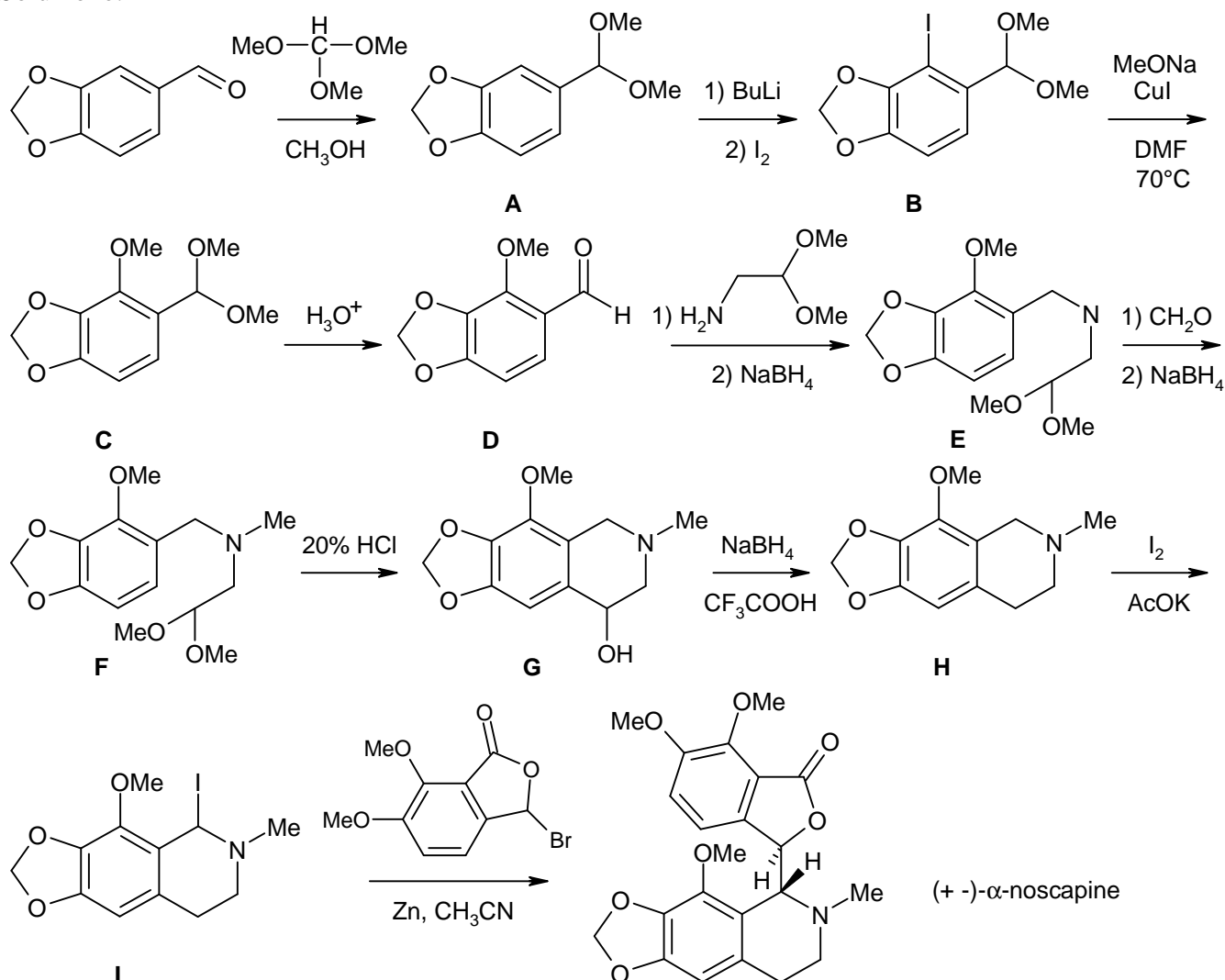
Problema 20 Antitussive “narcotine”

(-)- α -Noscapine is an alkaloid isolated from *Papaver somniferum* L. in 1817 by P. Robiquet which named this compound as “narcotine”. This agent demonstrates significant painkilling and antitussive activities. It is also used for treatment of cancer, stroke, anxiety, and so on. There are some syntheses of (\pm)- α -noscapine. One of them is given in the scheme below.

Write down the structural formulae of compounds A–I if G is a tricyclic compound.



Soluzione:



Soluzione proposta da Mauro Tonellato - ITI Marconi - Padova