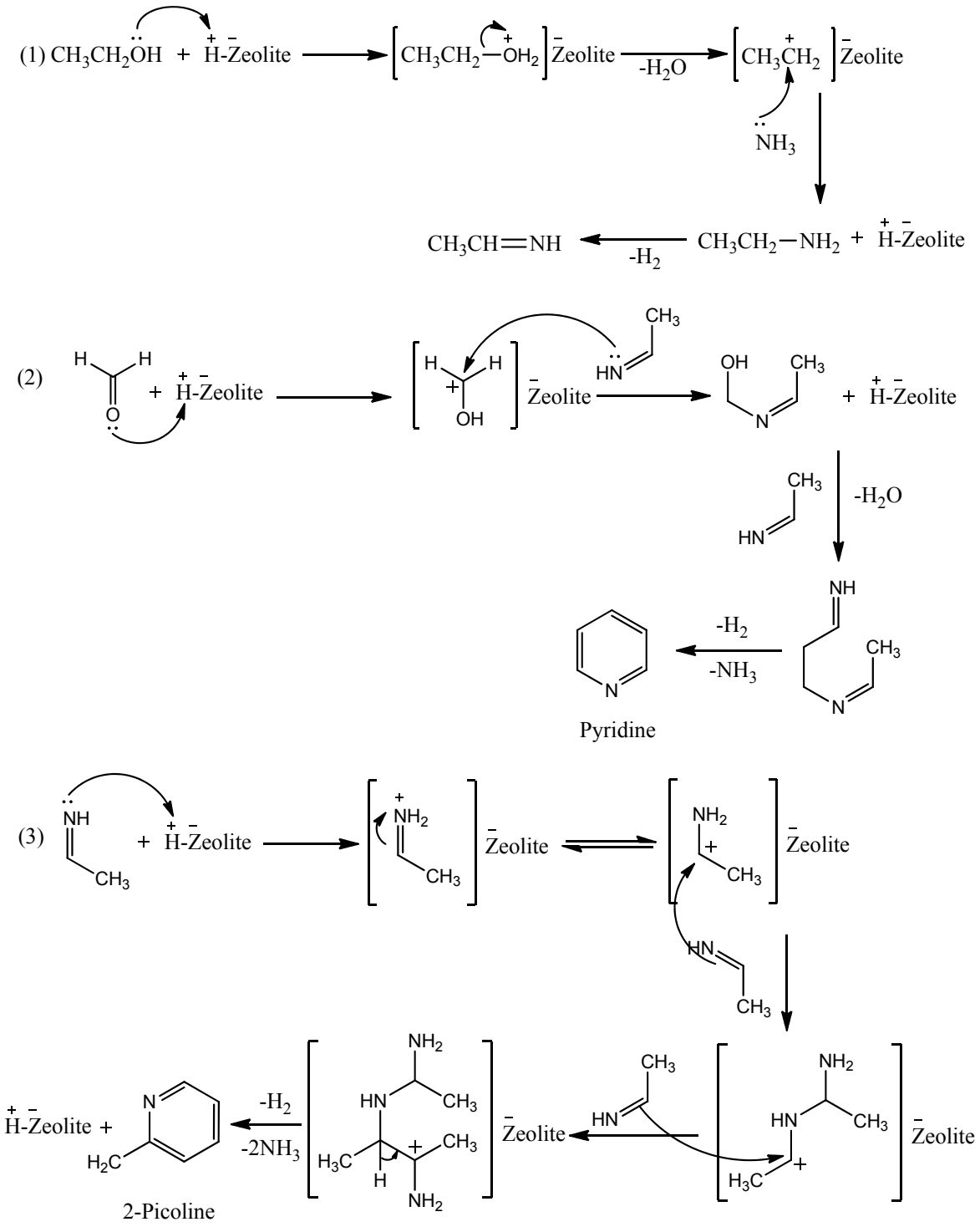
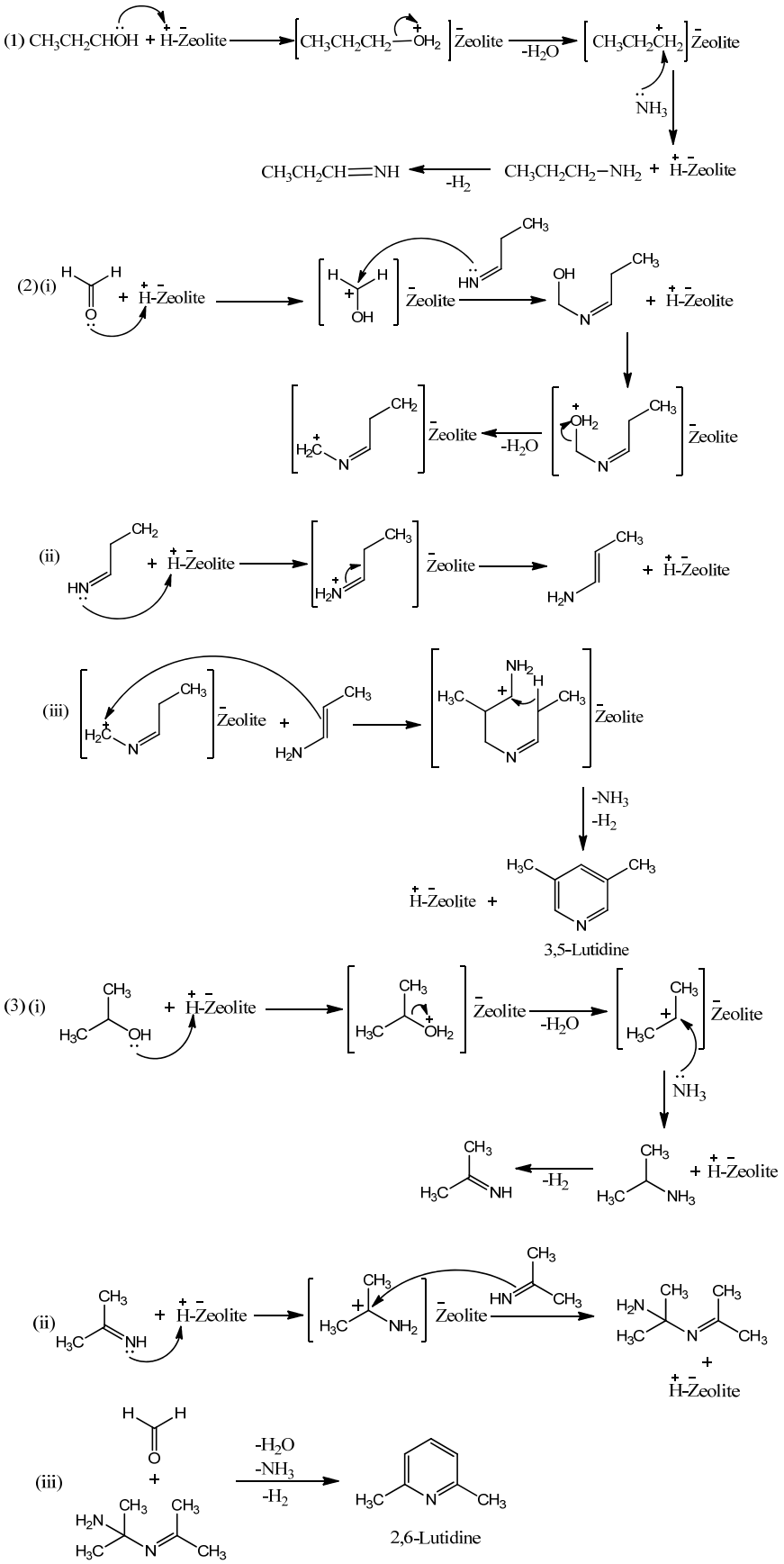
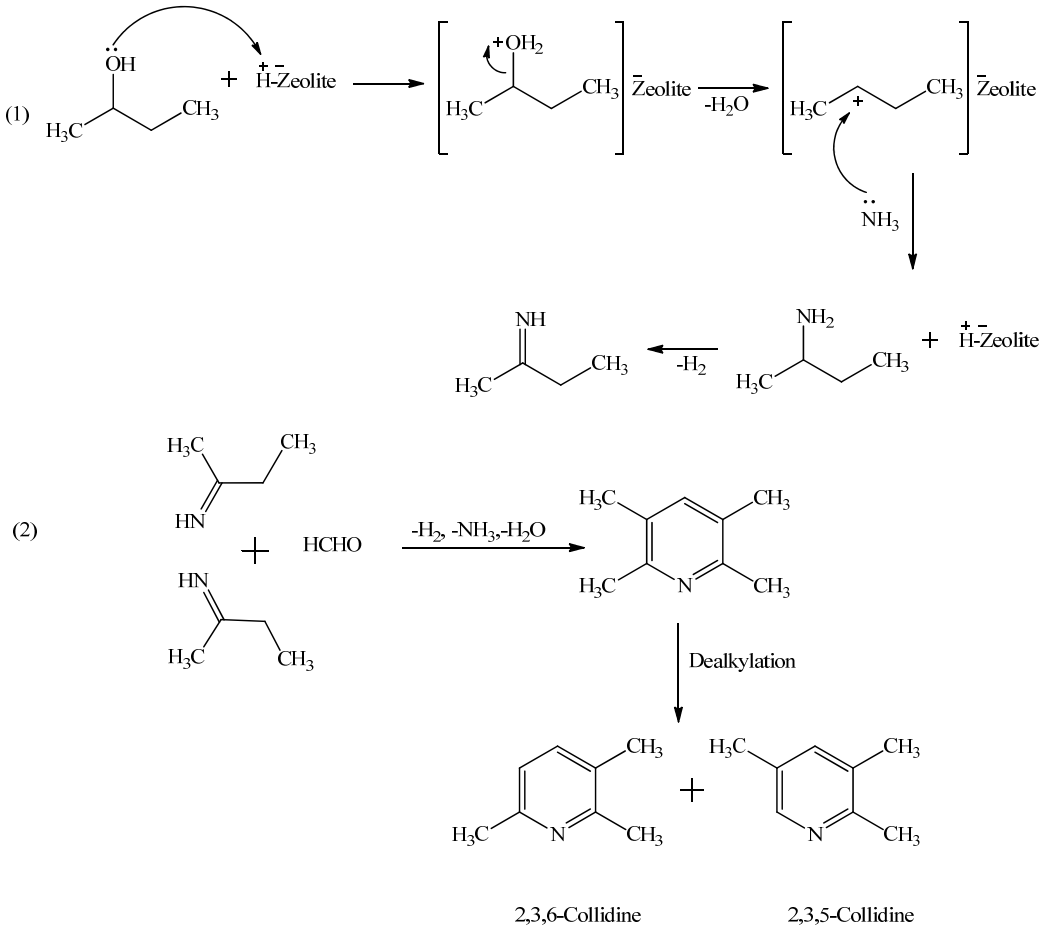


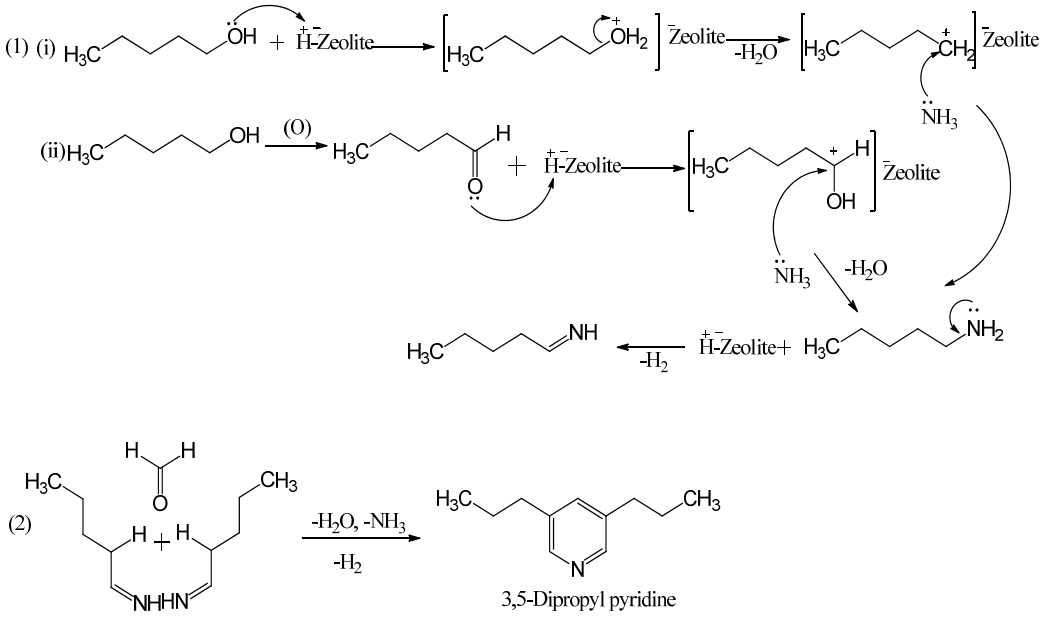
Scheme I. Synthesis of (2) pyridine and (3) picoline from ethanol



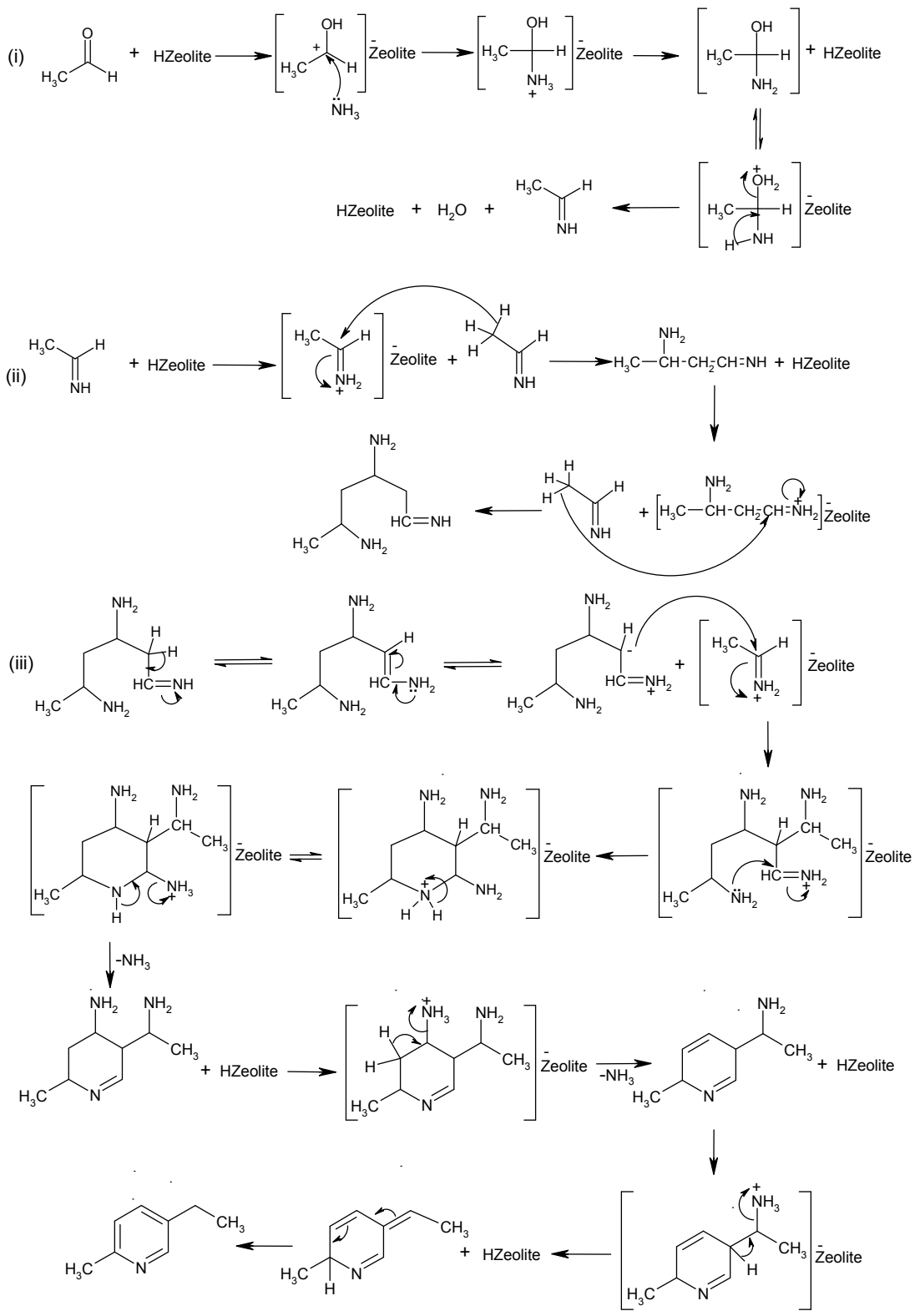
Scheme II: Reaction mechanism for the formation of (2) 3,5-lutidine from n-propanol and (3) 2,6-lutidine from 2-propanol over zeolites.



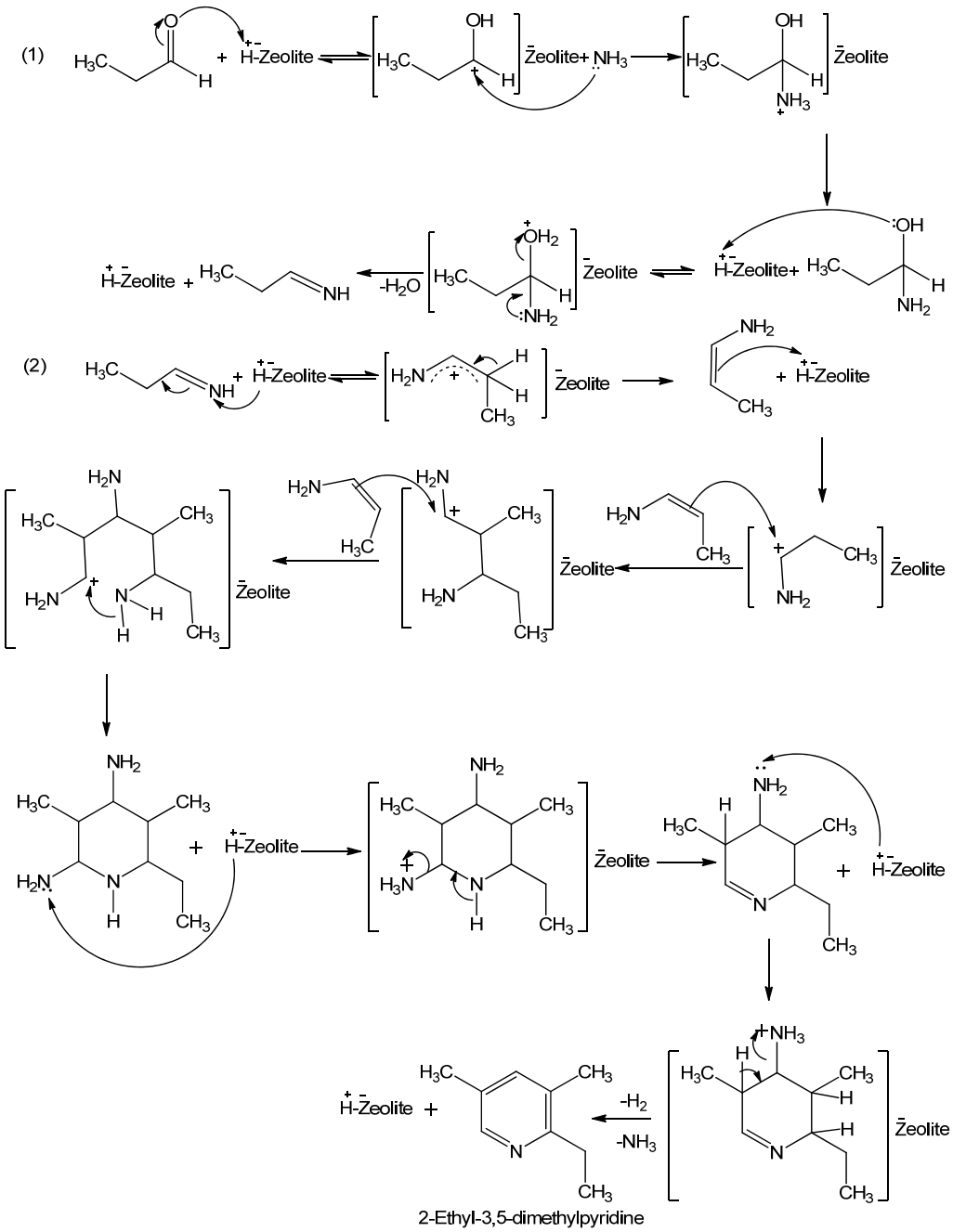
Scheme III: Synthesis of collidines using 2-propanol over zeolites



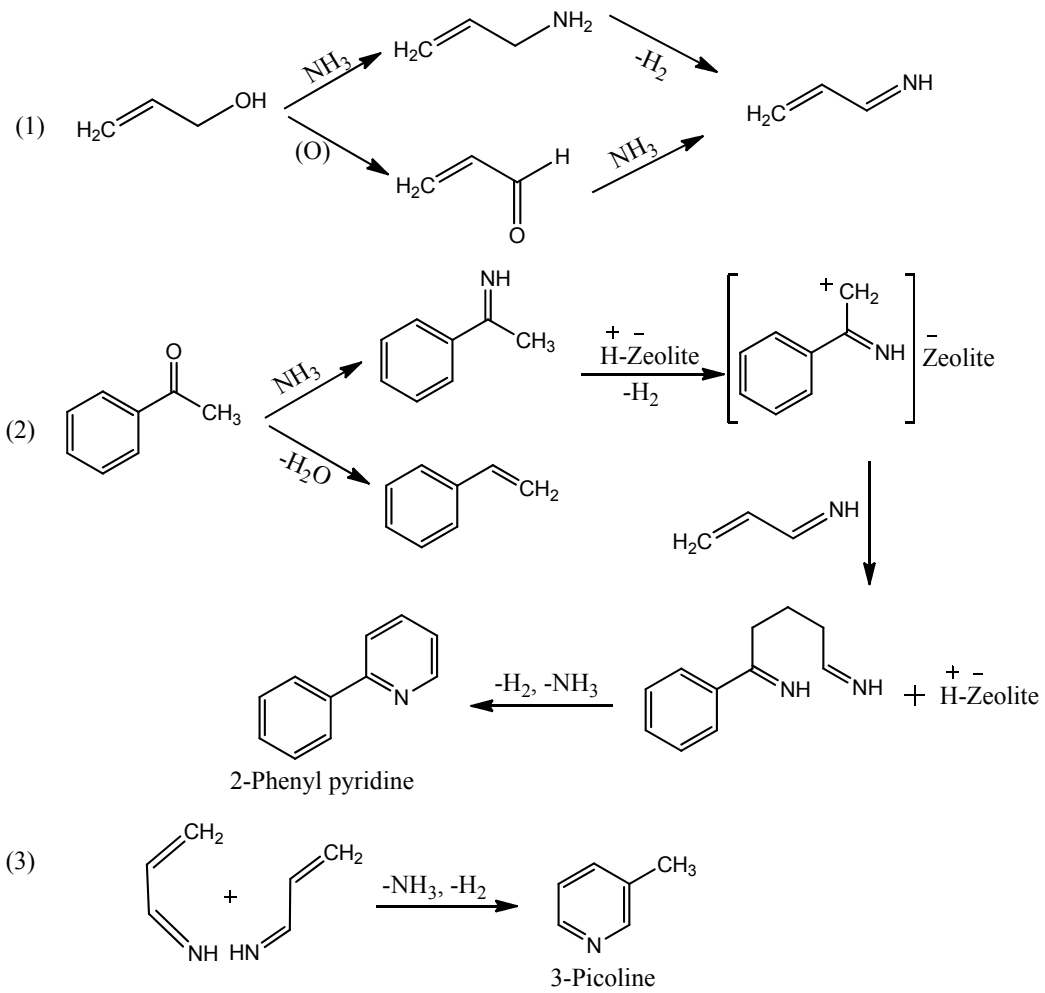
Scheme IV: possible reaction mechanism for the formation of 3,5-dipropyl pyridine over zeolite catalysts



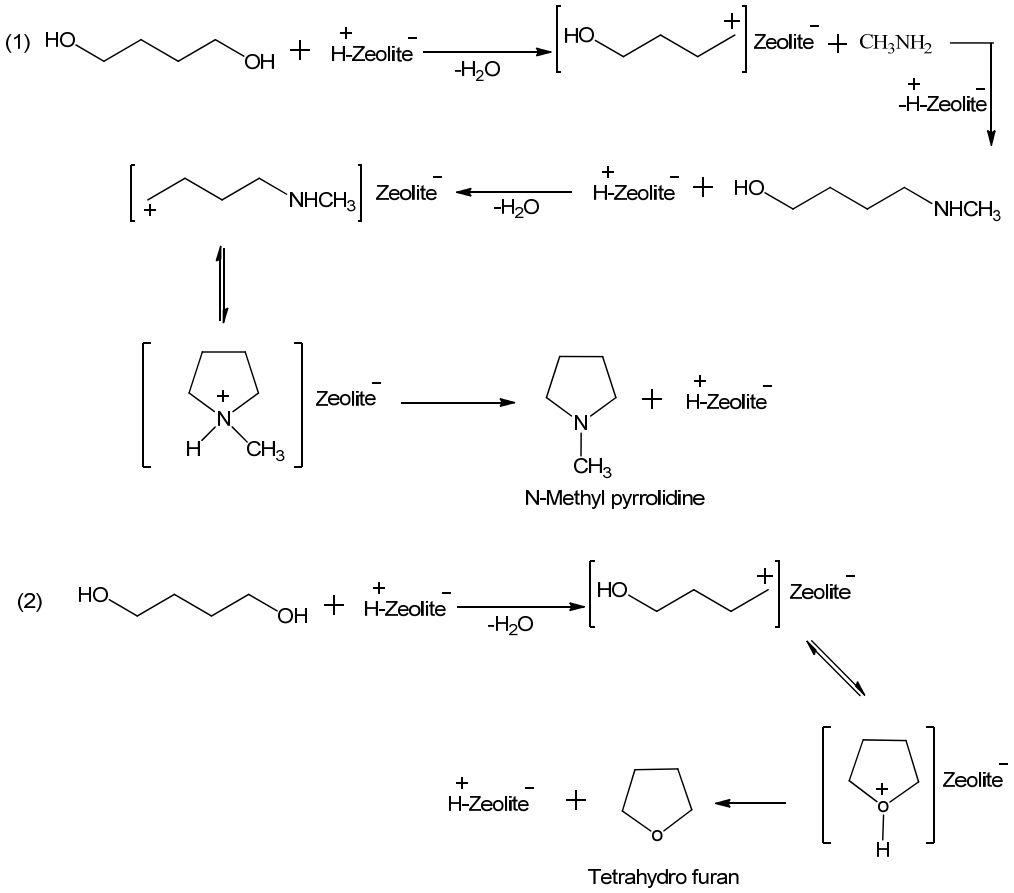
Scheme V: A possible zeolite catalyzed reaction mechanism for the formation of 5-ethyl-2-methyl pyridine.



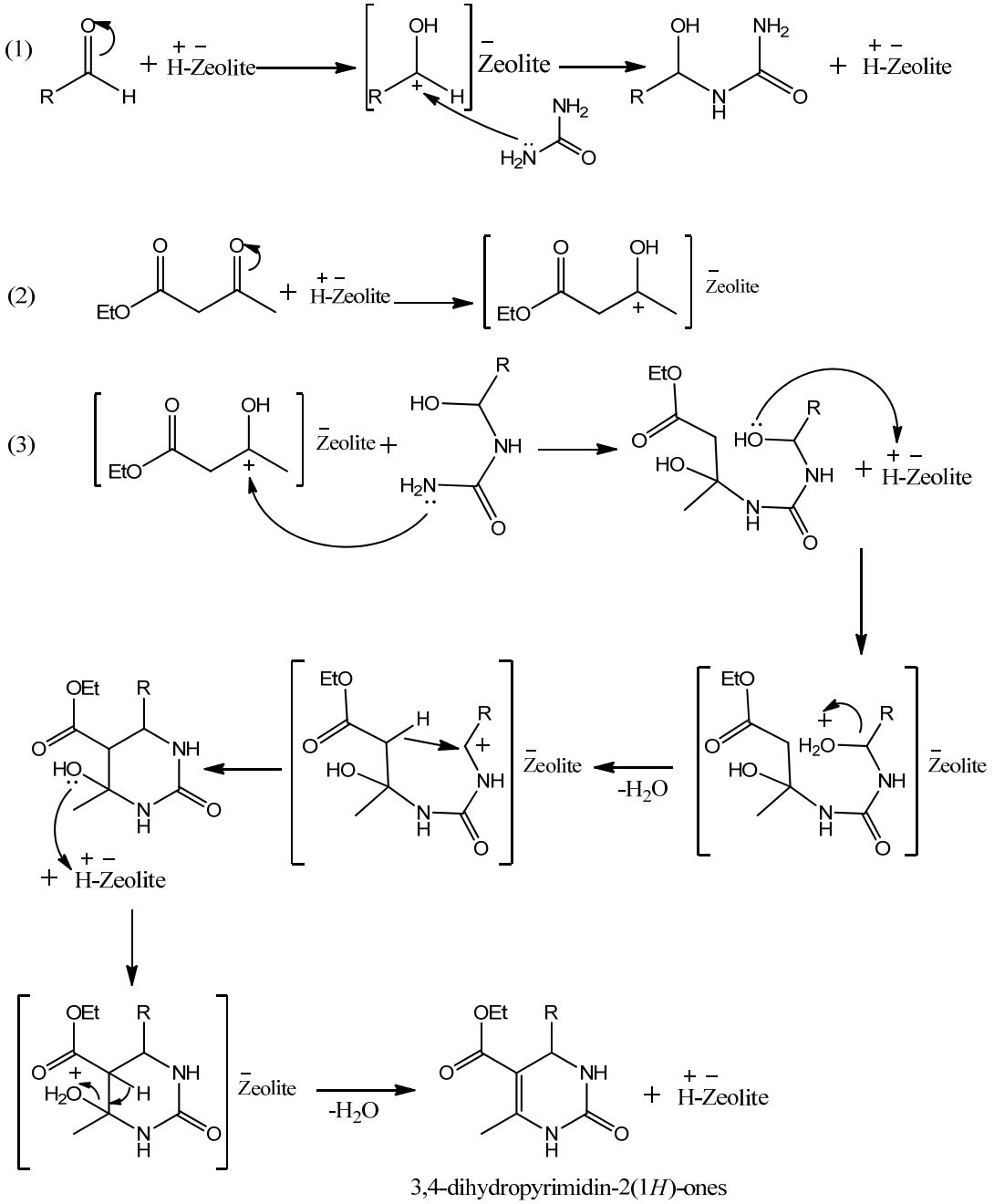
Scheme VI: Zeolite catalyzed synthesis of 2-ethyl-3,5-dimethyl pyridine



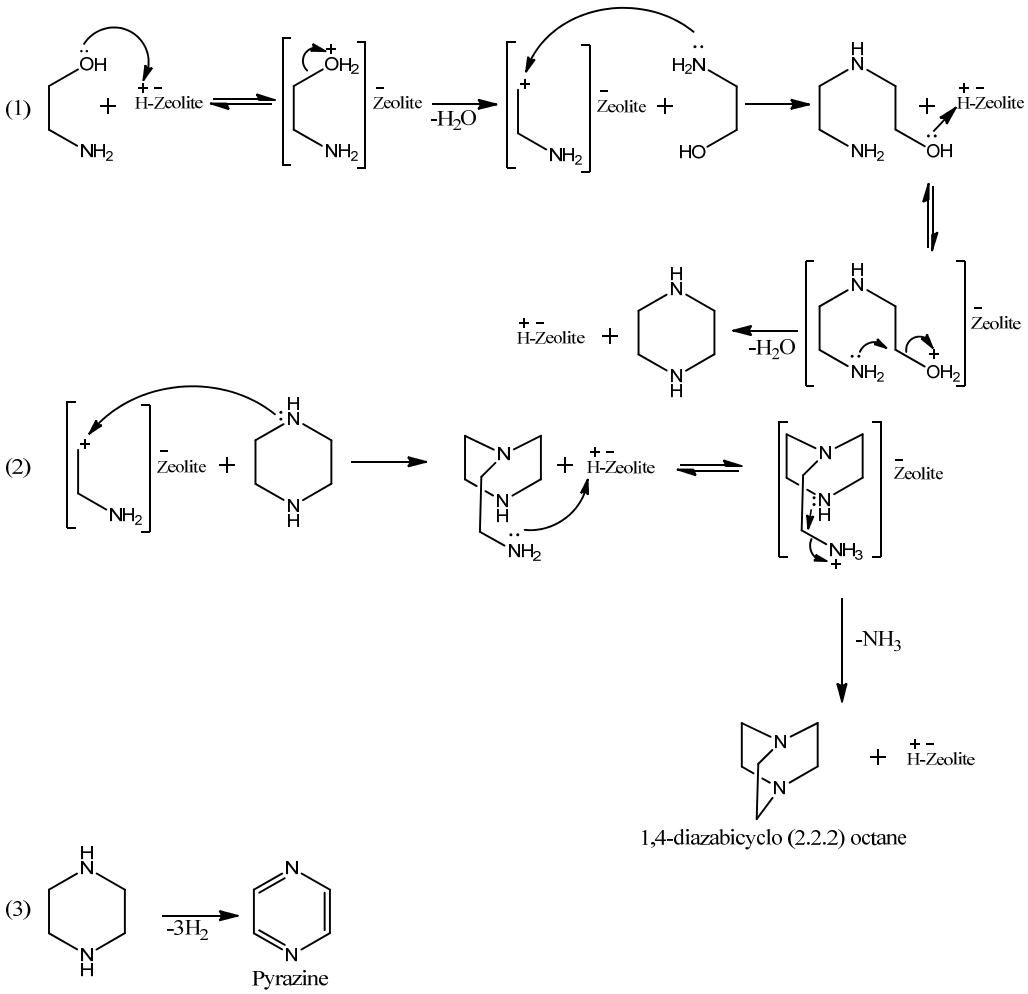
Scheme VII: Possible reaction mechanism for the formation of 2-phenyl pyridine and 3-picoline



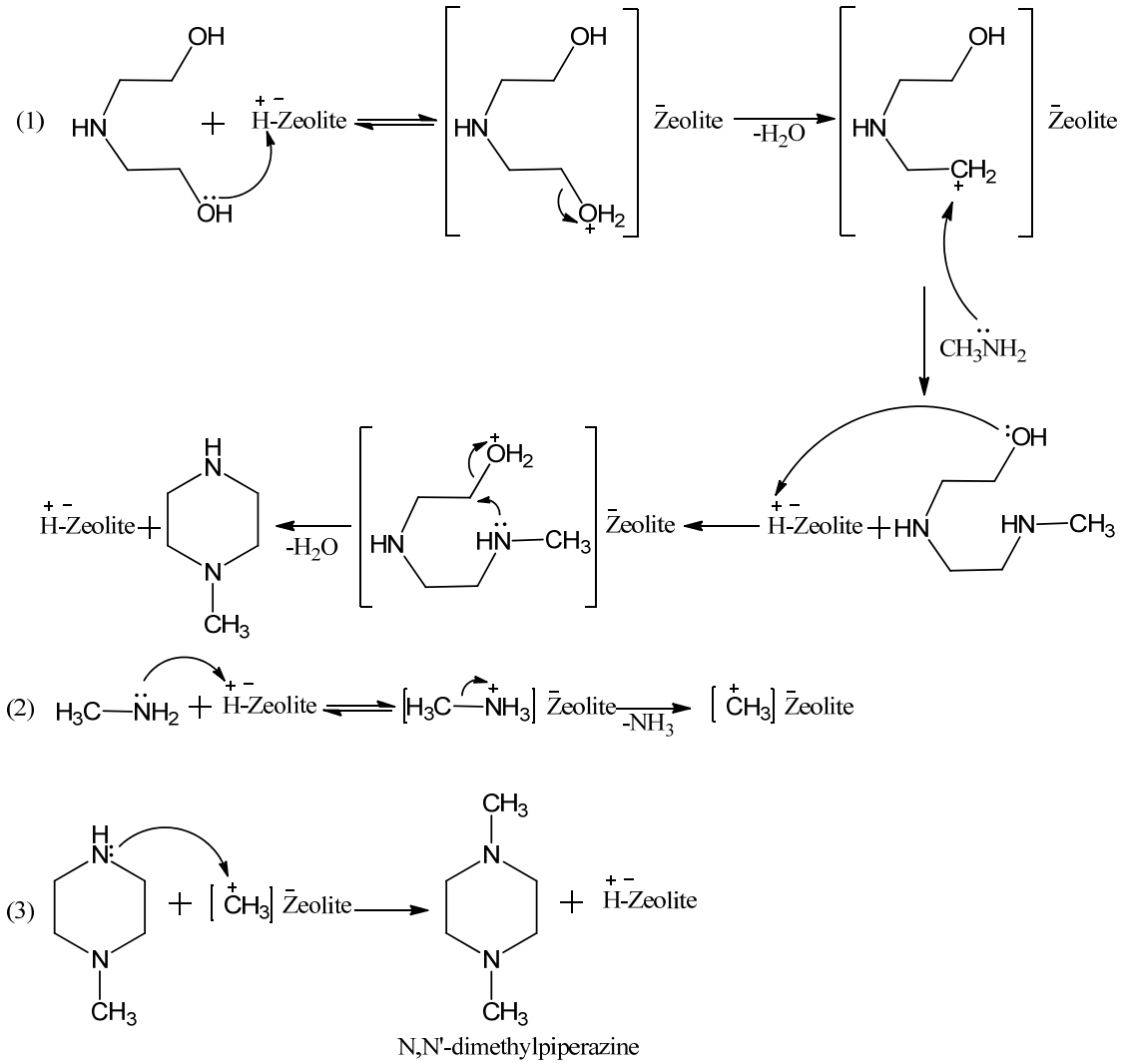
Scheme VIII: Reaction mechanism for the synthesis of *N*-methylpyrrolidine and tetrahydrofuran



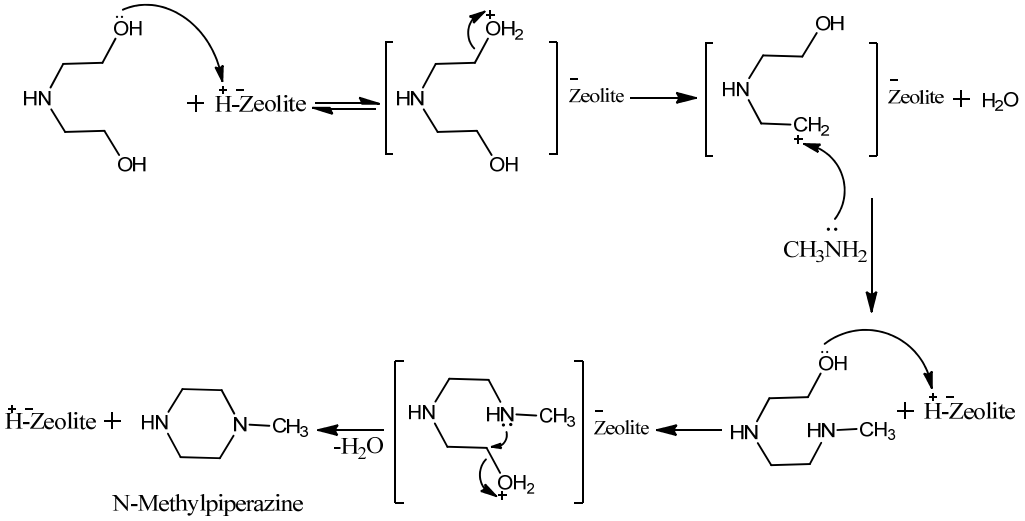
Scheme IX: Zeolite catalysed reaction mechanism for the formation of 3,4 -dihydropyrimidin-2(1*H*)-ones.



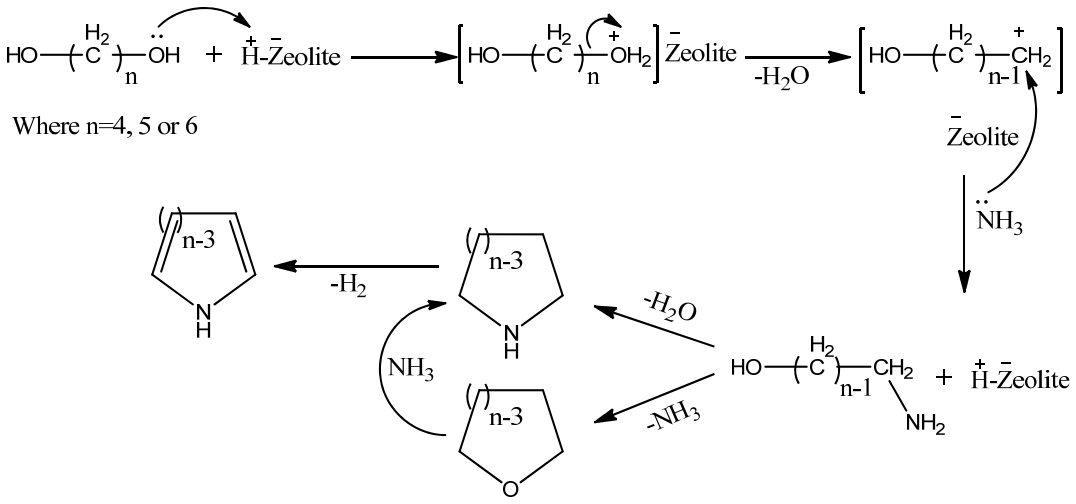
Scheme X: Zeolite catalysed synthesis of 1,4-diazabicyclo (2.2.2) octane and formation of pyrazine



Scheme XI: Zeolite catalyzed possible reaction mechanism for the synthesis of *N,N'*-dimethylpiperazine.

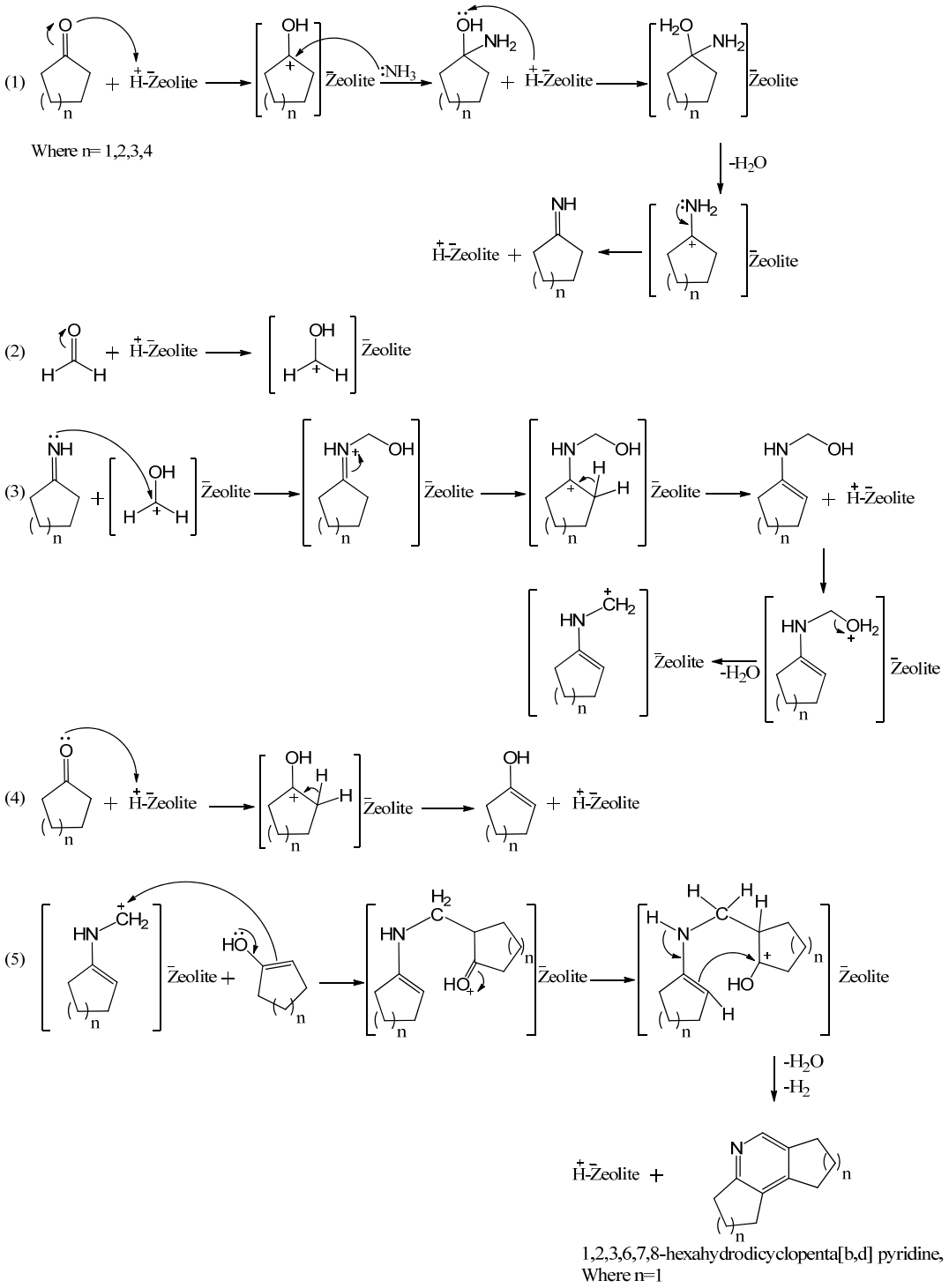


Scheme XII: Synthesis of *N*-methylpiperazine over zeolite catalysts.

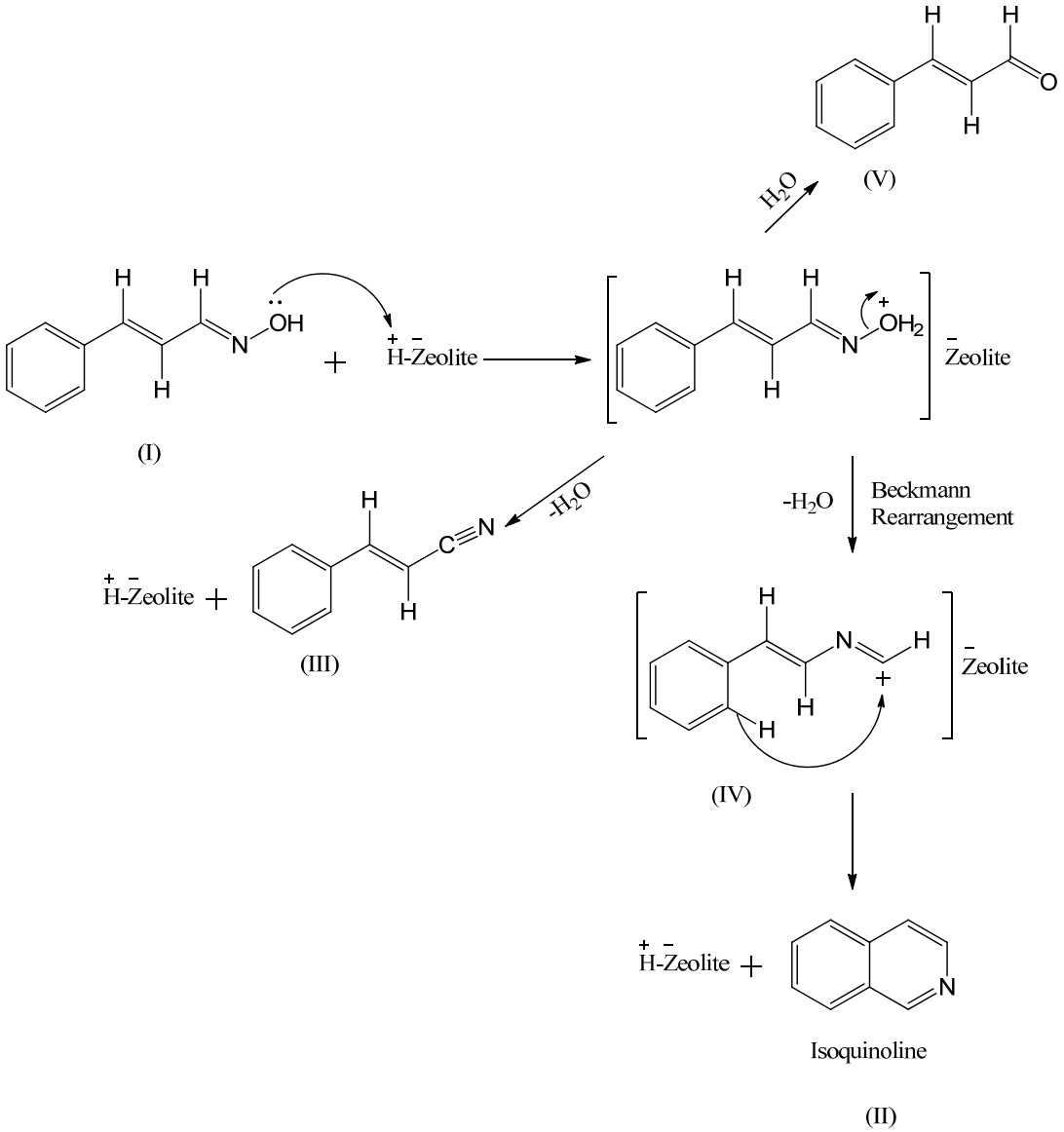


Scheme XIII: Synthesis of pyrrole, pyrrolidine and THF using 1,4-butane diol over zeolite catalysts.

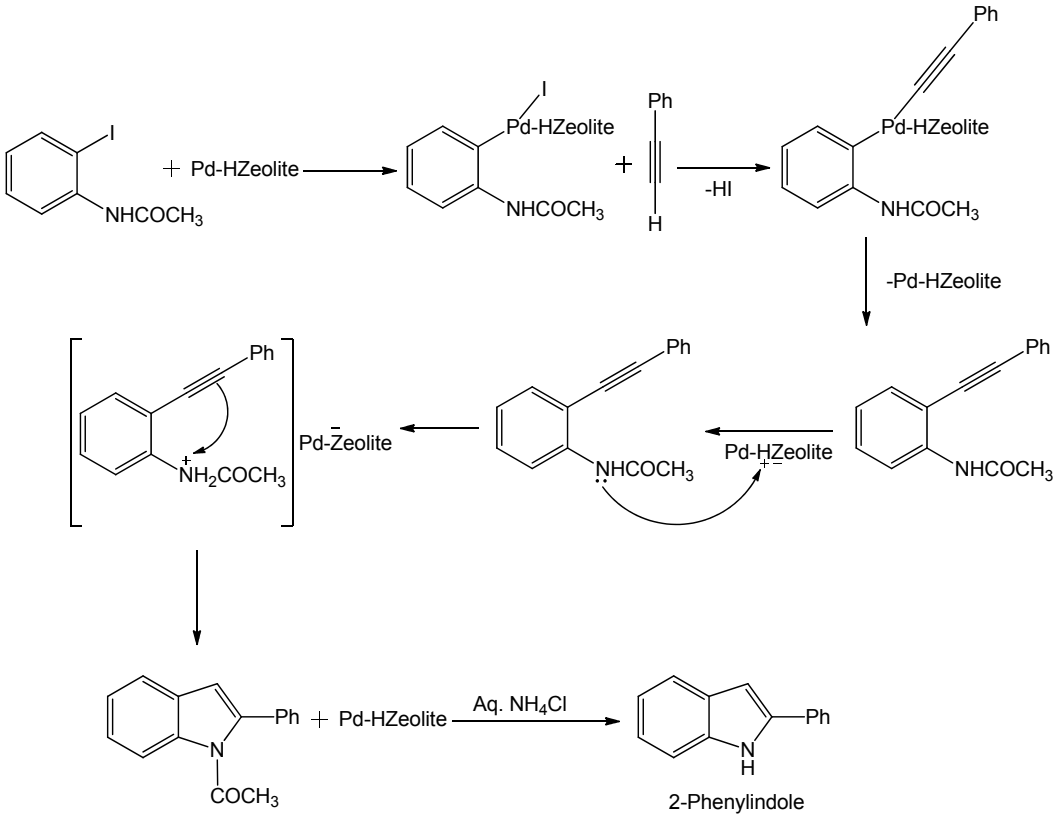
Scheme XIV: Synthesis of piperazine and pyrazine over zeolite catalysts



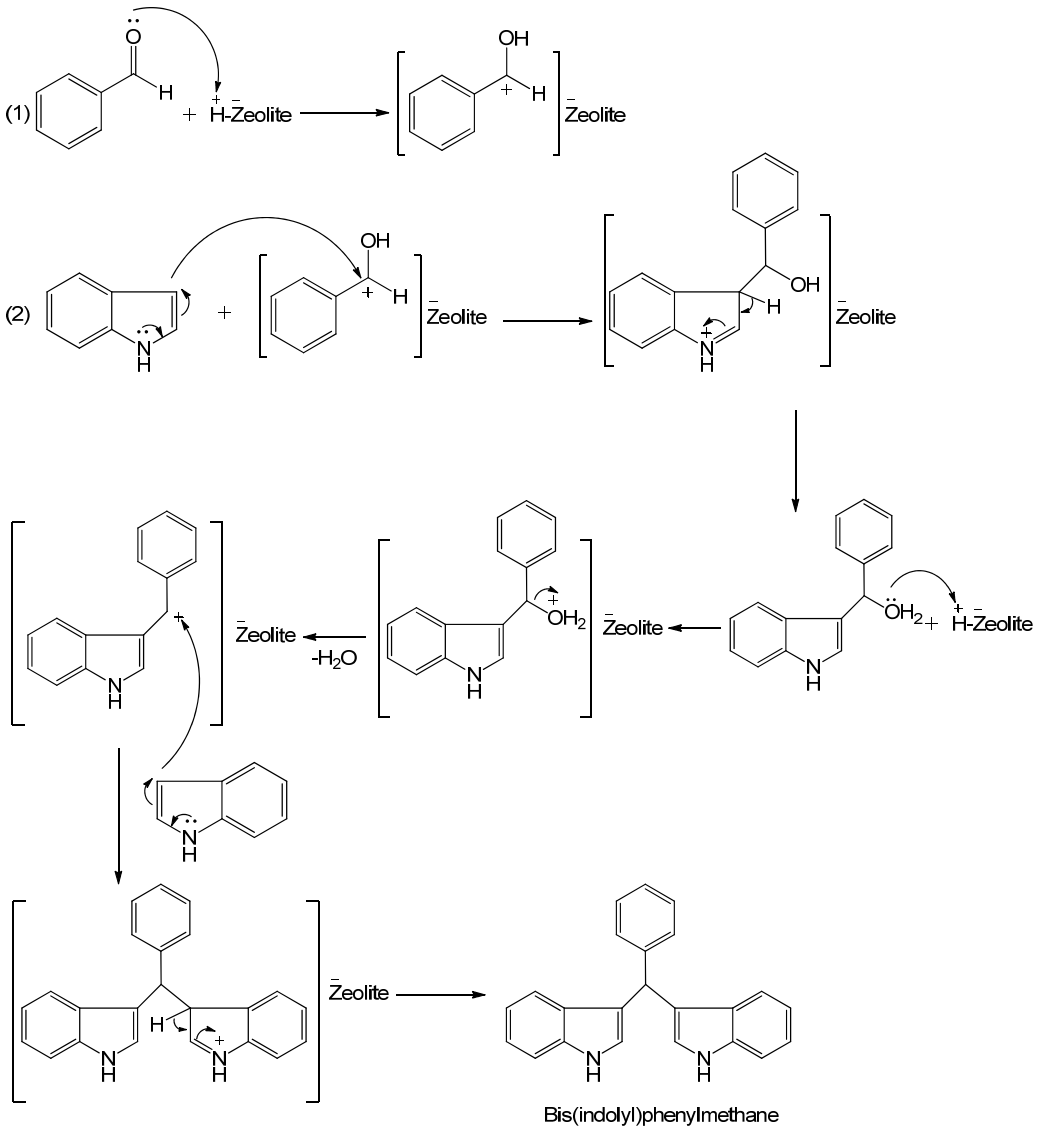
Scheme XV: Possible zeolite catalyzed synthesis of annelated pyridines**.**



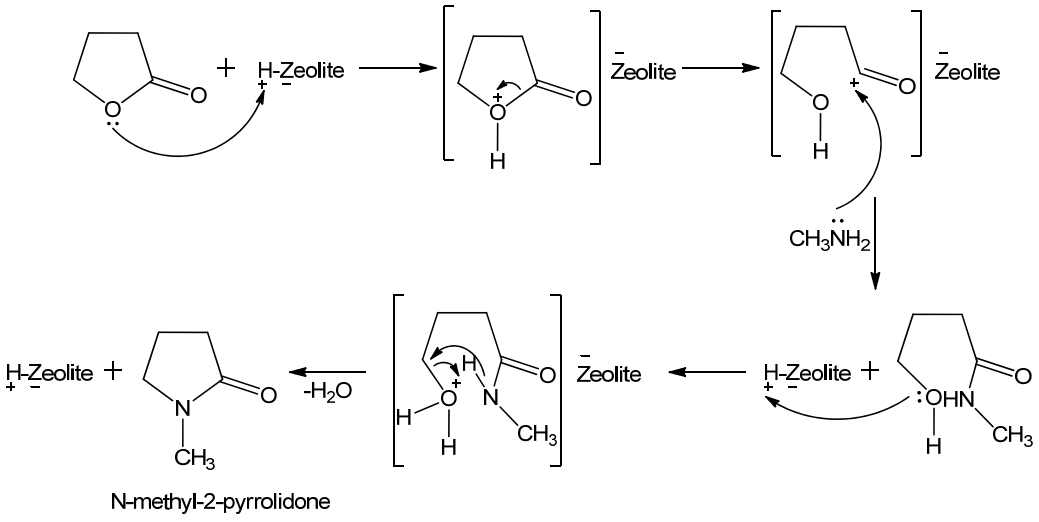
Scheme XVI: Possible reaction mechanism for the synthesis of isoquionline over zeolite catalysts



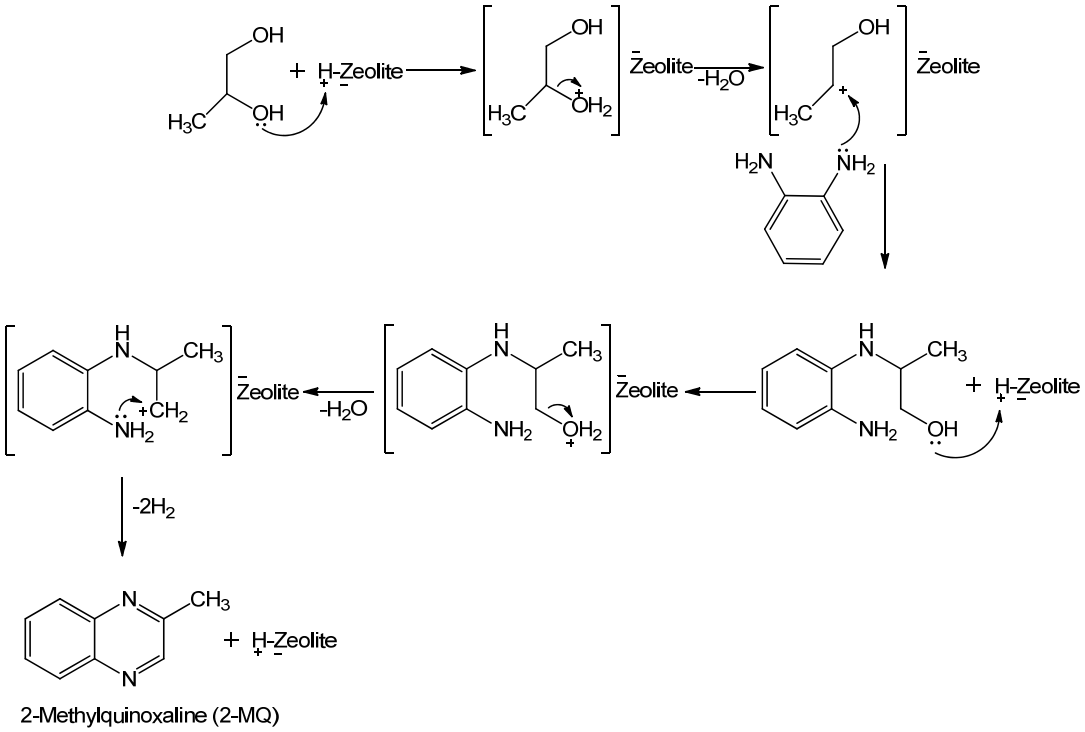
Scheme XVII: Possible mechanism for the synthesis of 2-phenylindole over Pd-modified zeolites.



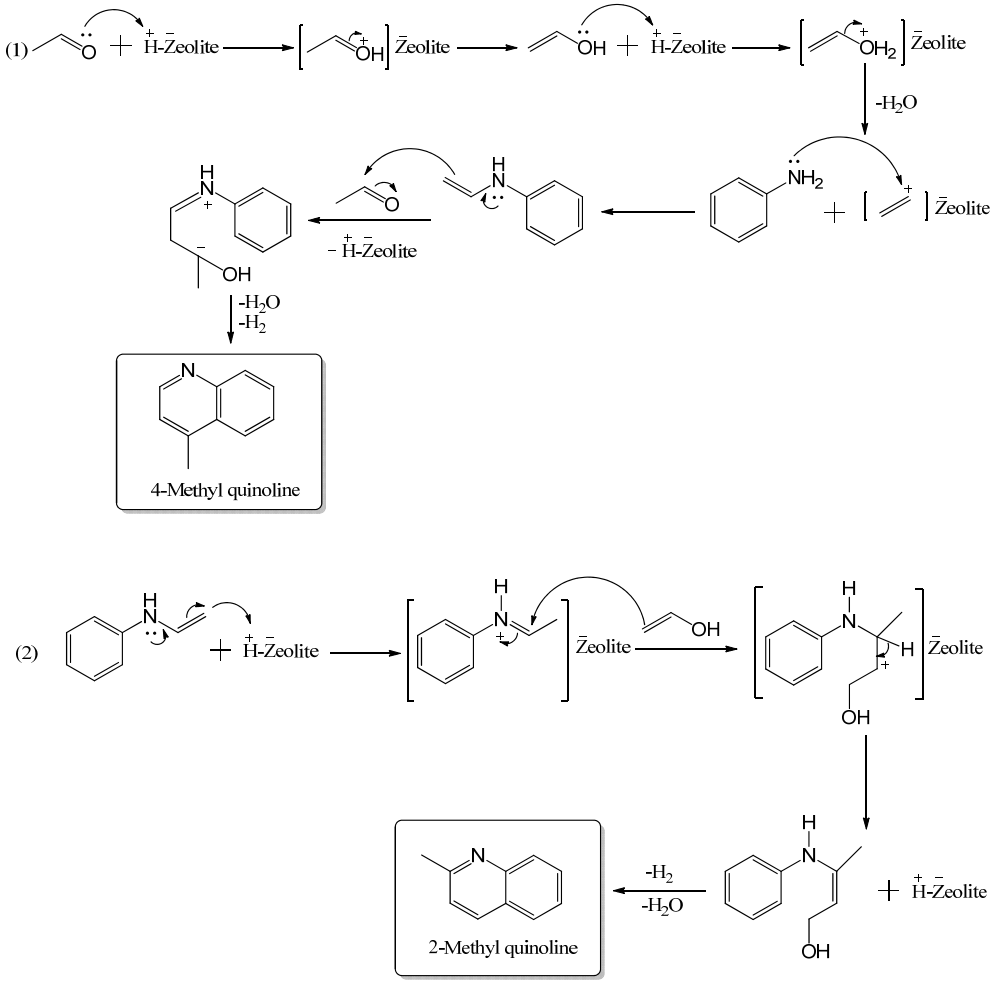
Scheme XVIII: Zeolite catalyzed mechanism for the formation of bis(indolyl) methanes.



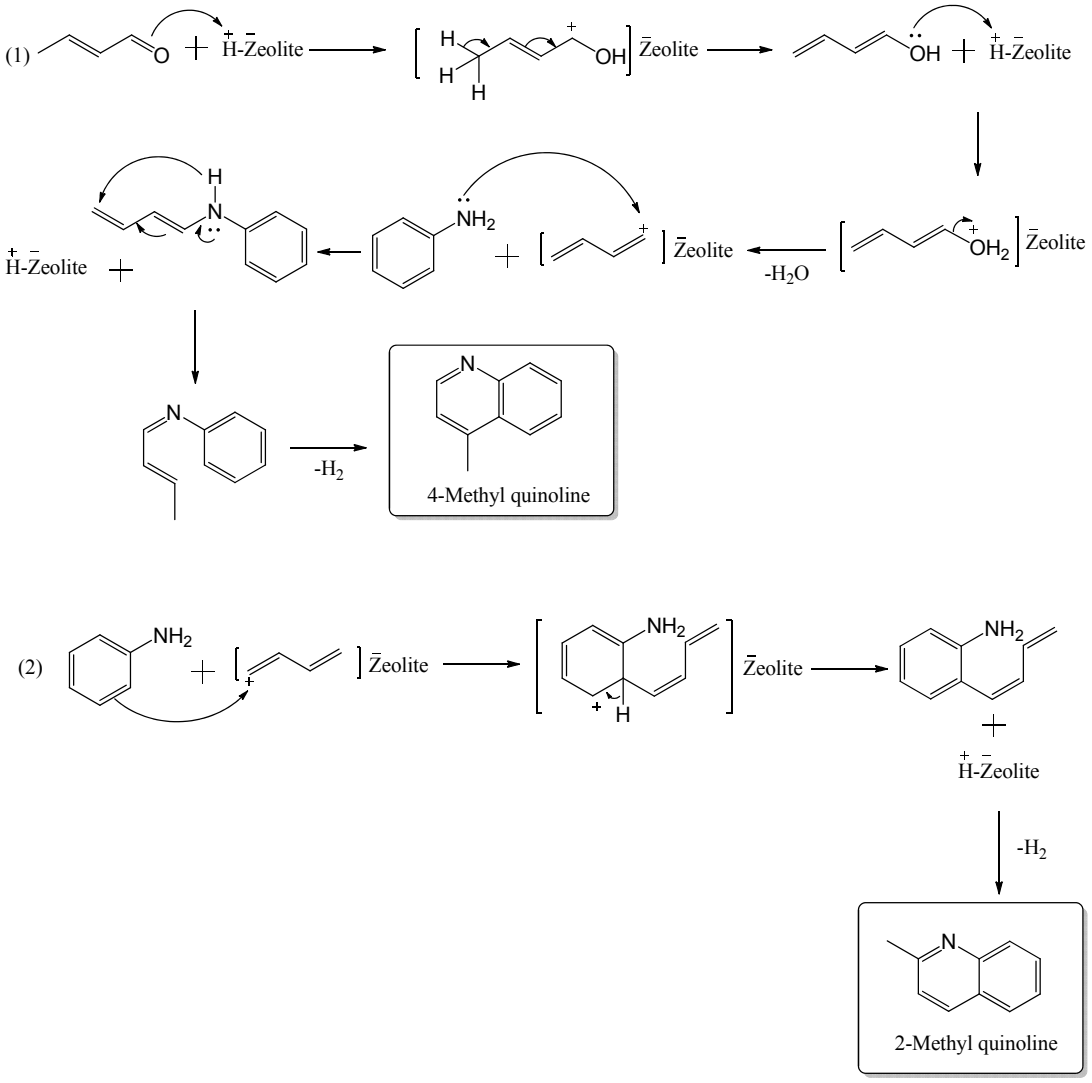
Scheme XIX: Possible reaction mechanism for synthesis of *N*-methyl-2-pyrrolidone over zeolites.



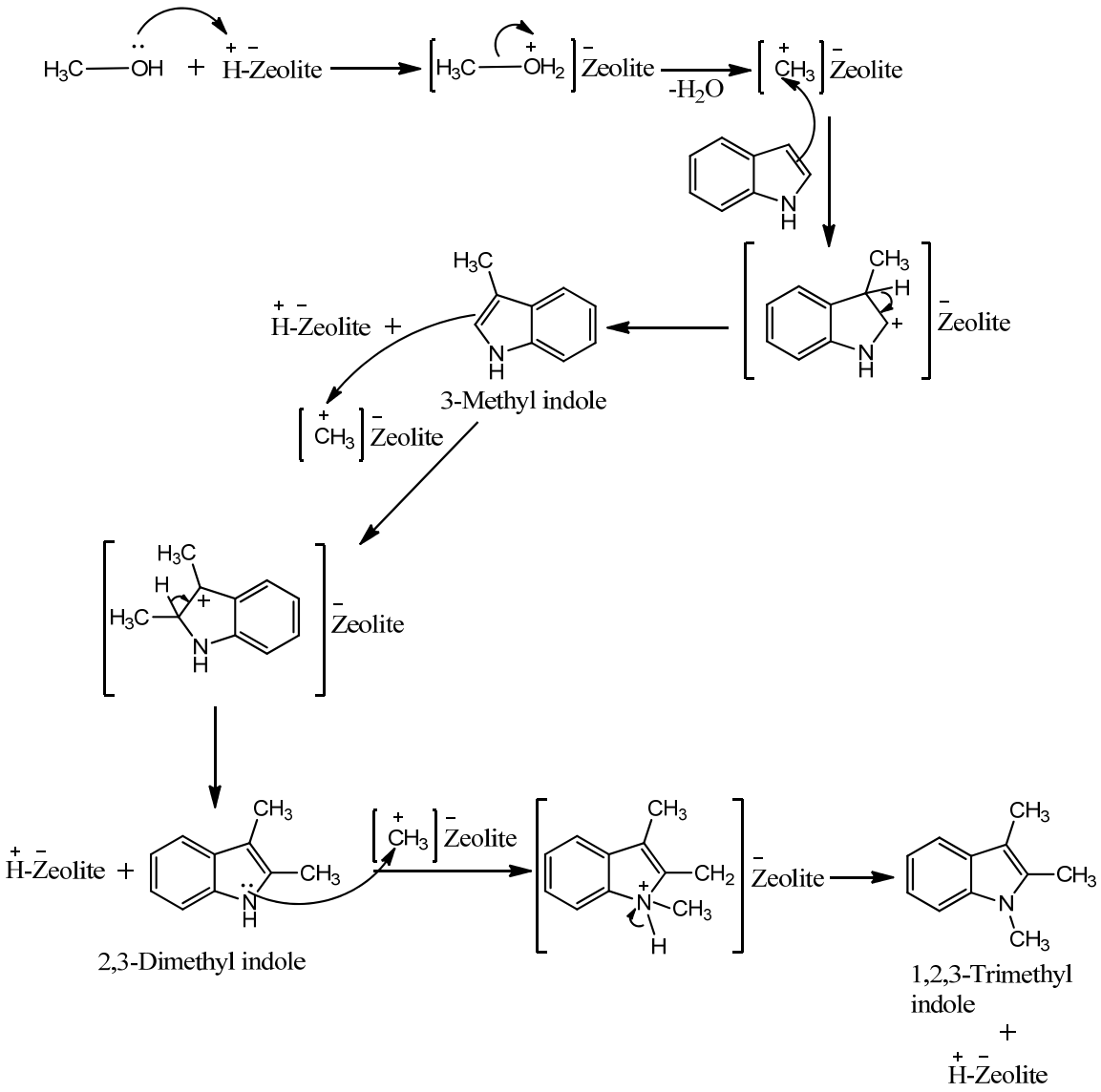
Scheme XX: Possible reaction mechanism for the formation of 2-methylquinoxaline over zeolite.



Scheme XXI: Synthesis of 2MEQ and 4MEQ over zeolites**.**



Scheme XXII: Synthesis of 4-MEQ, 2-MEQ from crotonaldehyde and aniline.



Scheme XXIII: Vapor phase alkylation of indole with methanol over zeolites.