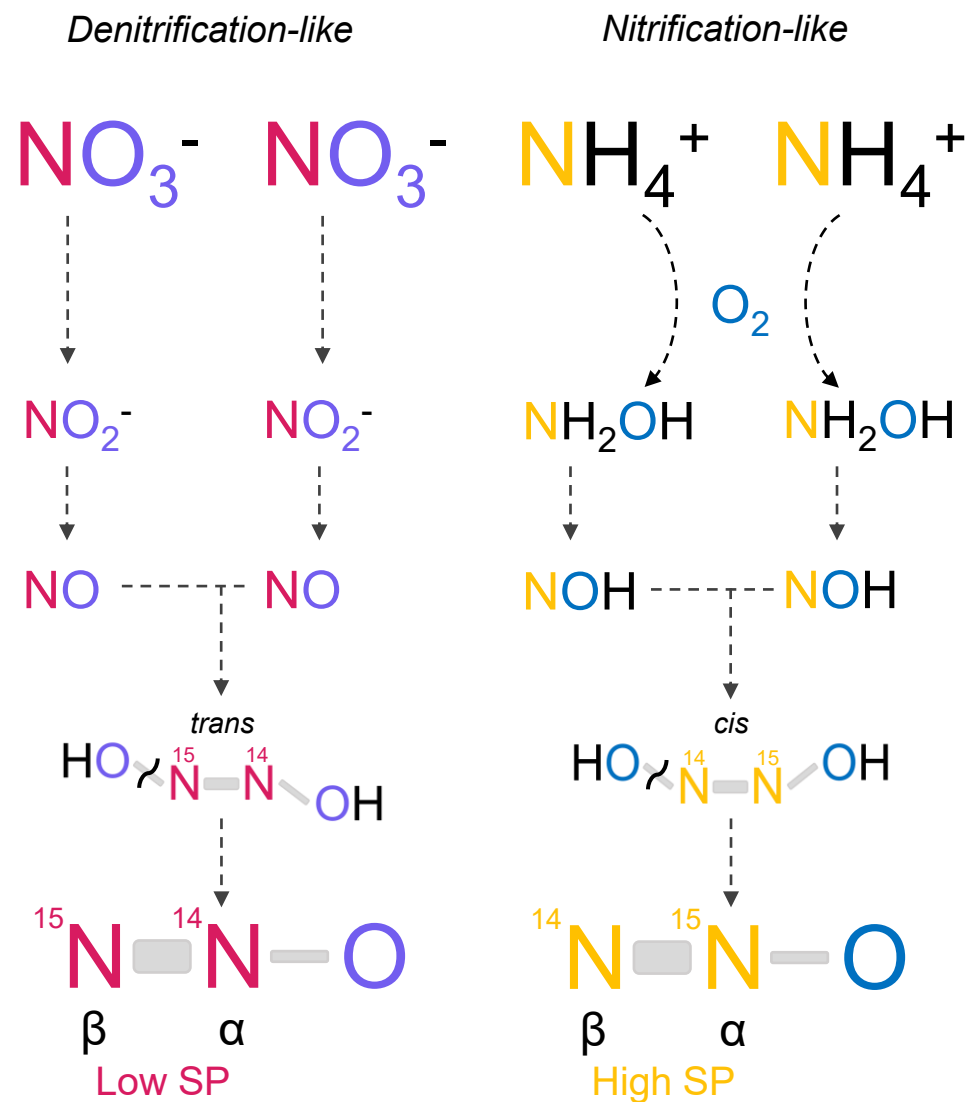
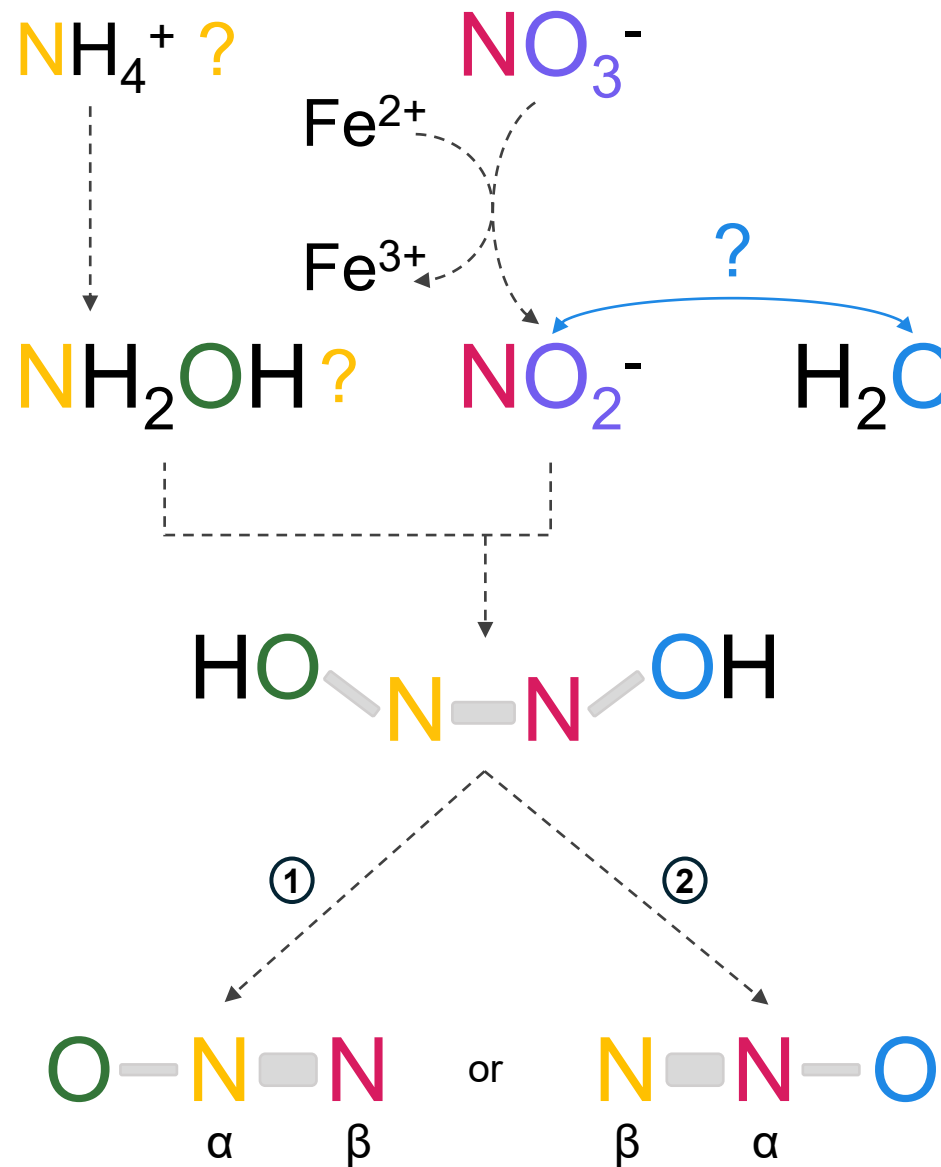
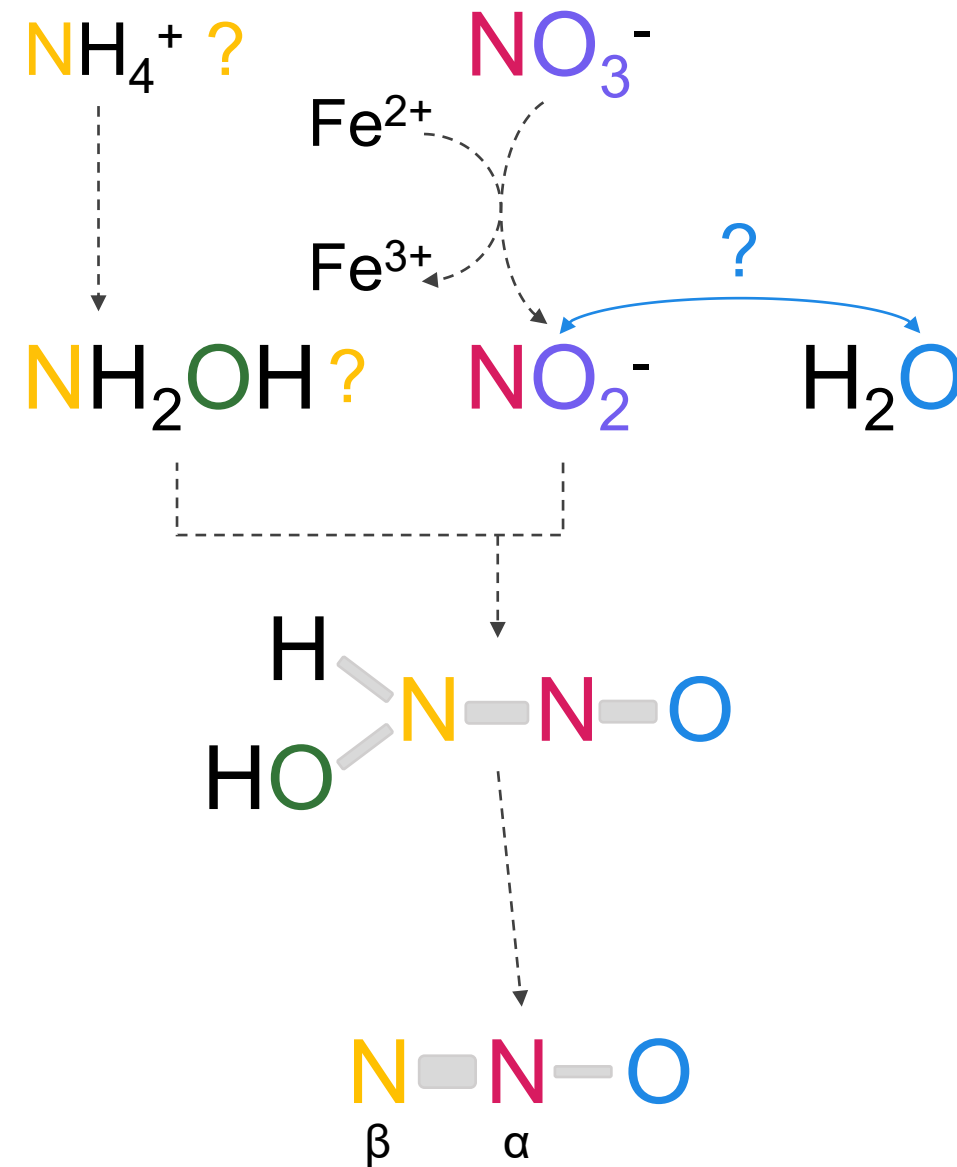


(a) Single-precursor N₂O with symmetric intermediate

SP = mechanism-specific kinetic isotope effect

(b) Hybrid N₂O with symmetric intermediate

SP = mechanism-specific kinetic isotope effect

(c) Hybrid N₂O with asymmetric intermediateSP = $\delta^{15}\text{N}(\text{NO}_3^-) - \delta^{15}\text{N}(\text{N-?}) + \text{isotope effects}$