Significance: A nickel-catalyzed protocol for the selective coupling of nitrate salts with organohalides to form oximes is disclosed. This method represents a new strategy for upcycling the environmental pollutant nitrate into synthetically valuable chemicals.

Comment: X-ray structures of catalyst intermediates and DFT calculations support the shown mechanism. While the conversion of aromatic alkyl halides proceeded smoothly, purely aliphatic halides showed no reaction or gave only traces of product.