Representative substrates (>99% yield for both reactions):

Proposed mechanism:

Significance: Click reactions are renowned for their high efficiency, rapid kinetics, and good selectivity. Not surprisingly, it is generally difficult to reverse click reactions, because they typically have much favored thermodynamics. Here, a reversible, radical-mediated click reaction is developed.

Comment: By developing and applying a set of highly effective redox conditions, rapid and quantitative 'click-clip' reactions are realized by reversibly coupling phenothiazines with amines to form sulfilimines.

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