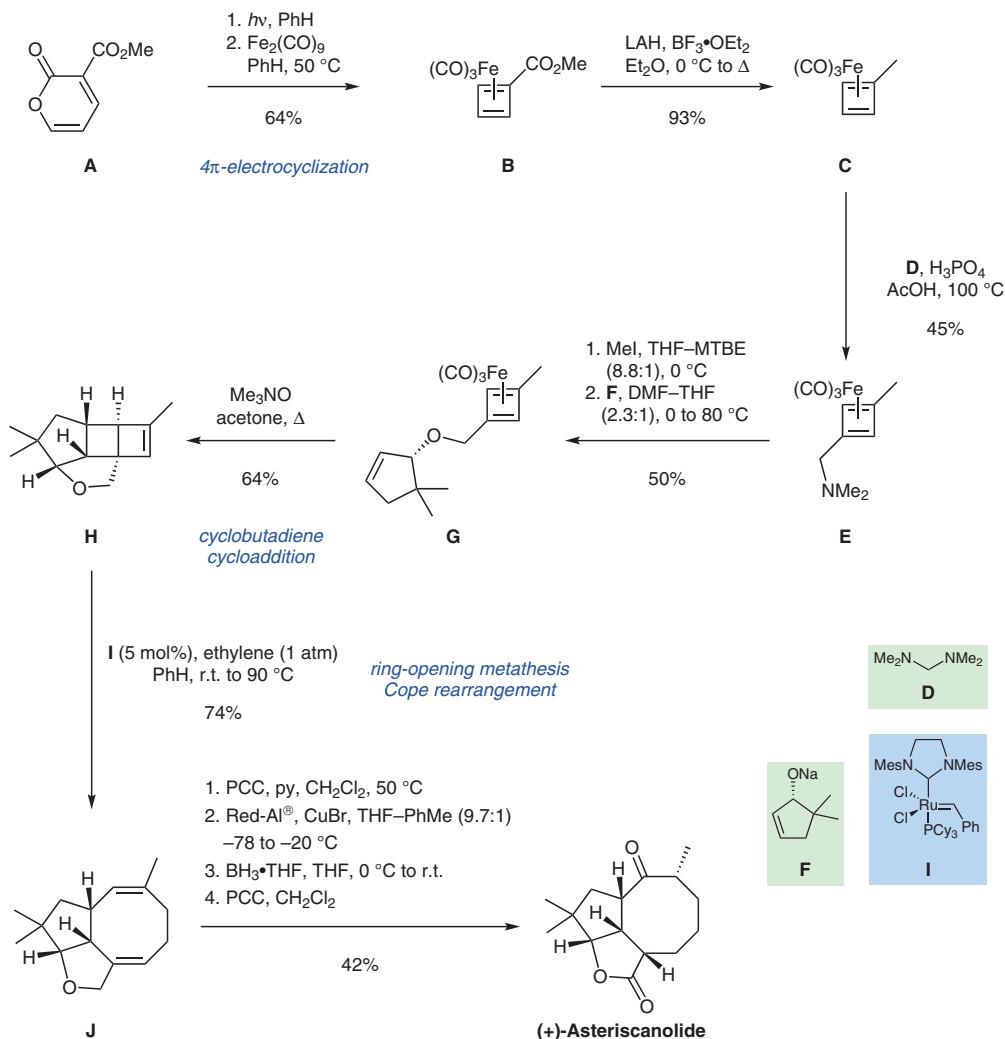


Total Synthesis of (+)-Asteriscanolide



Significance: Snapper and Limanto present a concise synthesis of the sesquiterpene (+)-asteriscanolide. The authors use a combination of different pericyclic reactions to assemble the eight-membered ring of the natural product in an elegant fashion. Their work showcases the use of iron-complexed cyclobutadienes in total synthesis.

Comment: A photochemical electrocyclization of α -pyrone **A** followed by CO_2 elimination furnished iron-complexed cyclobutadiene **B**. Further functionalization gave access to cycloaddition precursor **G**. Cyclobutadiene cycloaddition, followed by ring-opening metathesis and Cope rearrangement quickly assembled cyclooctadiene **J** which was converted into (+)-asteriscanolide in four steps.