ISOMERIZATION MECHANISMS AROUND E=E’ (E,E’=C,SI,GE) BONDS-
DOUBLE BONDS, ANIONS, RADICALS.
EXPERIMENT AND THEORY

Lieby Zborovsky, Arseni Kostenko, Daniel Pinchuk, D. Bravo-Zhivotovskii, Yitzhak Apeloig

Schulich Faculty of Chemistry, Technion – Israel Institute of Technology, Haifa 32000, Israel
apeloig@technion.ac.il

The mechanism of isomerization around C=C bonds has been studied extensively both experimentally and theoretically and appears in every organic chemistry textbook.

In contrast, relatively little is known about the isomerization mechanisms around E=E’ bonds- where E,E’=Si,Ge - carbon’s heavier congeners.

In this lecture we discuss isomerization mechanisms around E=E’ (E,E’=C,Si,Ge) bonds in silenes and germenes (RR’C=ERR’, E=Si,Ge), and in silenyl anions (RR’C=SiR-) and radicals, recently synthesized in our group.[1,2] The experimental and computational studies reveal interesting differences between the isomerization mechanisms of alkenes and vinyl anions and radicals versus their heavier silicon and germanium congeners.

REFERENCES