IN-5

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

[1] D. Pinchuk, J. Mathew, A. Kaushansky, D. Bravo-Zhivotovskii, Y. Apeloig, *Angew. Chem., Int. Ed*. **2016**, *55*, 10258–10262.

[2] L. Zborovsky D. Pinchuk, J. Mathew, Y. Kratish, D. Bravo-Zhivotovskii, B. Tumanskii, Y. Apeloig, *Angew. Chem., Int. Ed.* **2019**, *58*, 7435–7439.