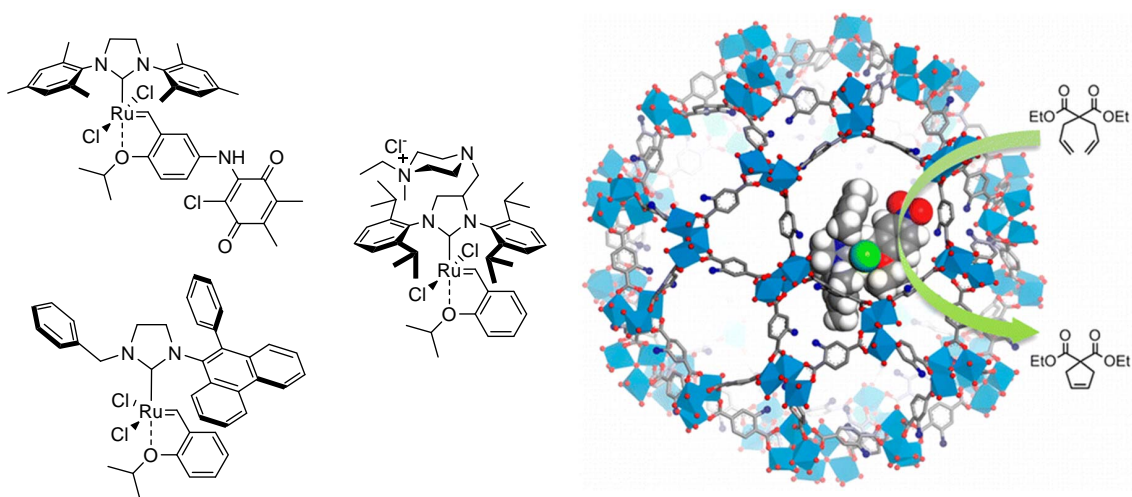


ISOMERIZATION IN METATHESIS REACTIONS: UNDESIRE SIDE PROCESS OR USEFUL TRANSFORMATION

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Ruthenium-catalyzed olefin metathesis is an attractive and powerful transformation for the formation of carbon-carbon double bonds [1]. This methodology is now quite familiar to most organic chemists as numerous catalysts are available that enable a multitude of olefin metathesis reactions. The additional process occurring during this transformation is double bond migration caused by ruthenium hydrides or nanoparticles—products of catalysts' decomposition [2].



Herein, different methods of inhibiting double bond migration will be presented. These include (1) the addition of isomerization inhibitors, (2) the use of specially designed catalysts, (3) the use of catalysts deposited on supports, such as MOFs (Figure 1). Additionally, positive aspects of this mostly undesired process will be presented.

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[2] (a) Hong, S. H.; Wenzel, A. G.; Salguero, T. T.; Day, M. W.; Grubbs, R. H., *J. Am. Chem. Soc.* **2007**, *129*, 7961-7968. (b) Higman, C. S.; Plais, L.; Fogg, D. E., *Culprits*. *ChemCatChem* **2013**, *5*, 3548-3551. (c) Higman, C. S.; Lanterna, A. E.; Marin, M. L.; Scaiano, J. C.; Fogg, D. E., *ChemCatChem* **2016**, *8*, 2446-2449.