



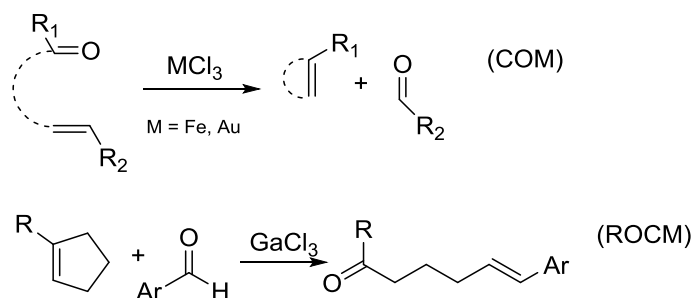
Université Claude-Bernard Lyon1 – Domaine de la Doua  
Institut de Chimie et Biochimie Moléculaires et Supramoléculaires - UMR – CNRS 5246  
Equipe de Synthèse, Utilisation, Réactivité des Composés Organiques et OrganoFluorés

Dr Fabienne Fache, Chargé de recherche HC (fabienne.fache@univ-lyon1.fr)

## Gold catalyzed ring-closing/ring-opening carbonyl-olefin metathesis reactions in ionic liquids.

### Réactions de métathèse carbonyle-oléfine (ring-closing/ring-opening) catalysées par l'or en milieux liquides ioniques.

The carbonyl-olefin metathesis (COM) has been much less explored compared to analogous olefin-olefin metathesis reactions, despite its potential highly valuable applications. Very recently, various Lewis acids such as  $\text{FeCl}_3$ <sup>1</sup>, tropylium<sup>2</sup> or  $\text{AuCl}_3$ <sup>3</sup> have been reported for such transformations. Ring-opening carbonyl-olefin metathesis (ROCM) was also developed using  $\text{GaCl}_3$ <sup>4</sup>.



The objective of this PhD thesis will be to synthesize new Lewis acid-based ionic liquids, especially Au ones and to test them in carbonyl-olefin metathesis. We have recently proposed the utilization of ionic liquids in organic reactions and showed the real potential of these media, as they allow to work without additional organic solvents and are easily recycled.<sup>5</sup> Thus, particular attention will be brought to develop such green chemistry procedures. The selectivity between intra- and inter-molecular metathesis is still challenging and will also be studied in details.

Finally, thanks to results thus obtained, we will apply our catalysts to the synthesis of macrocycles.

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