

MoP-2

EXCHANGE REACTIONS OF RHENIUM HYDROXO AND ALKOXO CARBONYL COMPLEXES $[\text{Re}(\mu\text{-OR})_3(\text{CO})_6]^-$ (R = H, Me) WITH ALCOHOLS AND THIOLS

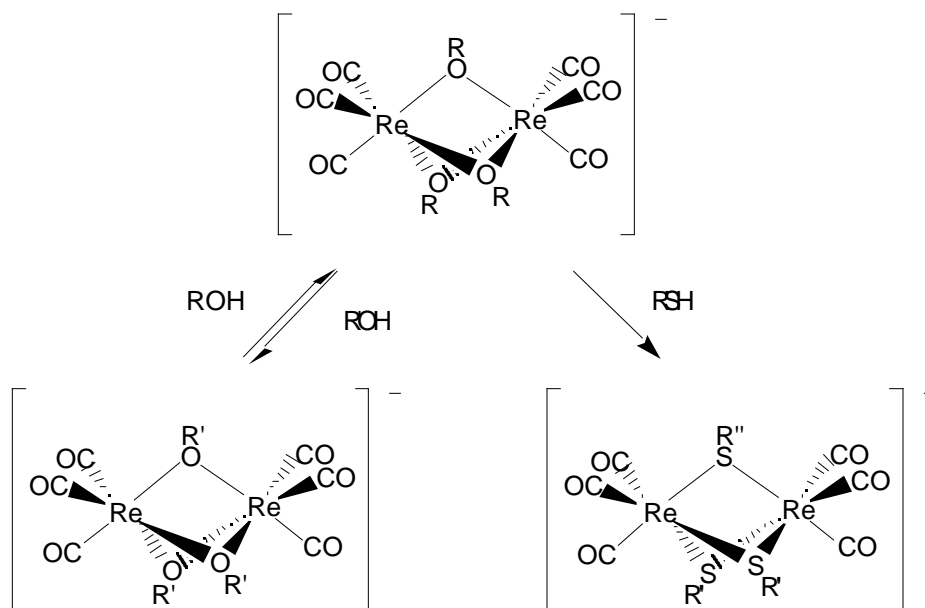
YAW KAI YAN^a, CHENGHUA JIANG^b, T.S. ANDY HOR^b, WILLIAM HENDERSON^c,
AND LOUISE J. McCAFFREY^c

^a Division of Chemistry, National Institute of Education, Nanyang Technological University, 469 Bukit Timah Road, Singapore 259756.

^b Department of Chemistry, National University of Singapore, Kent Ridge, Singapore 119260.

^c Department of Chemistry, University of Waikato, Private Bag 3105, New Zealand.

Metal complexes possessing ligands that are easily displaced under physiological conditions are attractive candidates for screening as anti-tumour drugs analogous to cisplatin¹. We wish to report on the facile ligand-exchange reactions of the rhenium hydroxo and alkoxo carbonyl complexes $[\text{Re}(\mu\text{-OR})_3(\text{CO})_6]^-$ (R = H, **1**; Me, **2**) with alcohols and other protic compounds, particularly thiols.



Solutions of partially- and completely-ligand-exchanged species derived from complexes **1** and **2**, unidentifiable by NMR spectroscopy, were studied using electrospray mass spectrometry (ESMS), a technique which has been applied to the detection of reaction intermediates². Novel fragmentation pathways for complexes **1** and **2**, as well as exchanged species derived from these, have been observed³.

References:

1. Alberto, R.; Egli, A.; Abram, U.; Hegetschweiler, K.; Gramlich, V. and Schubiger, P.A. J. Chem. Soc., Dalton Trans. 1994, 2815, and references therein.
2. Barnard, C.F.J.; Fricker S.P.; and Vaughan, O.J. In Insights into Speciality Inorganic Chemicals; Thompson, D., Ed.; Royal Society of Chemistry: Cambridge, 1995; p 35.
3. Jiang, C.; Henderson, W.; Hor, T.S.A.; McCaffrey, L.J.; and Yan, Y.K. Chem. Commun. 1998, 2029.