Water-gas shift reaction catalyzed by mononuclear ruthenium complexes containing bipyridine and phenanthroline derivatives

Aguirre, Pedro

Moya, Sergio A.

Sariego, Renato

Bozec, Hubert Le

Pardey, Alvaro J.

Ruthenium complexes of the type [RuL(CO)2Cl2], [RuL2Cl2], [RuL2(CO)(H2O)](PF6)2, [RuL2Cl]2(PF6)2, [RuL2(CO)Cl](PF6), and [RuL2(CO3)]·3H2O (where L is a bipyridine or phenanthroline derivative) dissolved in aqueous 2-ethoxyethanol, and in a basic medium of KOH, triethylamine, or trimethylamine, catalyze the water-gas shift reaction under mild conditions (PCO = 0.9 atm at 100°C).