

Ionic Liquid Mediated Palladium Catalysis

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Palladium catalysed Suzuki cross-coupling reactions have been investigated in imidazolium based ionic liquids and have been found to exhibit unprecedented reactivities in addition to easy product isolation and catalyst recycling. The *in situ* formation of mixed phosphine imidazolylidene palladium complexes, $[(PR_3)_2Pd(imy)X]^+$ (where: imy = imidazolylidene, X = Cl or Br), have been detected under conditions similar to many ionic liquid mediated palladium catalysed coupling reactions. These complexes have been prepared independently and demonstrated to be catalytic active. The imidazolylidene ligands exhibit dynamic behaviour with ligands derived from the ionic liquid.