Title:	Hg(ii) and Pd(ii) complexes with a new selenoether bridged biscarbene ligand: efficient mono- and bis-arylation of methyl acrylate with a pincer biscarbene Pd(ii) precatalyst†
Authors:	Rishu (/jspui/browse?type=author&value=Rishu) Prashanth, B. (/jspui/browse?type=author&value=Prashanth%2C+B.) Bawari, D. (/jspui/browse?type=author&value=Bawari%2C+D.) Verma, Aditya (/jspui/browse?type=author&value=Verma%2C+Aditya) Choudhury, A.R. (/jspui/browse?type=author&value=Choudhury%2C+A.R.) Singh, Sanjay (/jspui/browse?type=author&value=Singh%2C+Sanjay)
Keywords:	Lbenzimidazolium Na2Se Equivalents Produce
Issue Date:	2017
Publisher:	Royal Society of Chemistry
Citation:	Dalton Transactions,46(19), pp.6291-6302.
Abstract:	Two equivalents of 1-benzyl-3-bromoethylbenzimidazolium bromide couple with Na2Se to produce the first selenoether bridged bis-benzimidazolium salt (LH2)Br2. The nitrate (LH2)(NO3)2 and tetrafluoroborate (LH2)(BF4)2 salts were also synthesized from (LH2)Br2. The reaction of Hg(OAc)2 with (LH2)Br2 gave the first pseudo pincer carbene mercury complex, [Hg(L-κ2C)][HgBr4] (C1). Different complexes of Pd(II) with selenoether bridged carbene were obtained using (LH2)Br2 and (LH2)(NO3)2. Syntheses of these complexes were dependent on the counter anion and the temperature. Thus, the pincer type ionic complex [PdBr(L-κ3CSeC)]Br (C2) was isolated at 80 °C and the pseudo pincer type neutral complex cis-[PdBr2(L-κ2C)] (C3) was isolated at room temperature from (LH2)Br2 and Pd(OAc)2 in DMSO. The nitrate precursor (LH2)(NO3)2 on palladation with Pd(OAc)2 afforded [Pd(L-κ4CBzCSeC)]NO3 (C4) showing an unprecedented intramolecular metallation at the ortho position of the benzyl wingtip of the benzimidazole moiety. The ligand salts and metal complexes have been characterized using HRMS, heteronuclear NMR and IR spectroscopy. Single crystal X-ray structures of the ligand salts (LH2)Br2 and (LH2)(BF4)2 and complexes C1–C4 have also been elucidated. Complex C2 showed good activity for C–C coupling in the mono-Heck reaction of methyl acrylate and arylbromides. Interestingly, the less common bis-arylation was also observed with deactivated arylbromides as the result of double-Heck coupling.
Description:	Only IISERM authors are available in the record.
URI:	https://pubs.rsc.org/en/content/articlelanding/2017/dt/c6dt04505g#!divAbstract (https://pubs.rsc.org/en/content/articlelanding/2017/dt/c6dt04505g#!divAbstract) http://hdl.handle.net/123456789/2665 (http://hdl.handle.net/123456789/2665)
Appears in Collections:	Research Articles (/jspui/handle/123456789/9)

Files in This Item:

File	Description	Size	Format

Need to add pdf.odt (/jspui/bitstream/123456789/2665/1/Need%20to%20add%20pdf.odt)	8.63 kB	OpenDocument Text	View/Open (/jspui/bitstream/12345

Show full item record (/jspui/handle/123456789/2665?mode=full)

(/jspui/handle/123456789/2665/statistics)