

Title: Synthesis and structural characterization of new piano-stool ruthenium(II) complexes bearing 1-butylimidazole heteroaromatic ligand

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Abstract: New cationic ruthenium(II) complexes with the formula [Ru(eta(5)-C5H5)(LL)(1-Bulm)] [Z], with (LL) = 2PPh(3) or DPPE, and Z = CF3SO3-, PF6-, BPh4-, have been synthesized and fully characterized. Spectroscopic and electrochemical studies revealed that the electronic properties of the coordinated 1-butylimidazole were clearly influenced by the nature of the phosphane coligands (LL) and also by the different counter ions. The solid state structures of the six complexes determined by X-ray crystallographic studies, confirmed the expected distorted three-legged piano stool structure. However the geometry of the 1-butylimidazole ligand was found considerably different in all six compounds, being governed by the stereochemistry of the mono and bidentate coligands (PPh3 or DPPE). (C) 2012 Elsevier B.V. All rights reserved.

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