# Intermolecular stabilization in new 2-iminopyridine derivatives complexes of Pd (II) and their reactivity towards alkenes

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**Abstract**

Two new iminopyriridine ligands (1–2) and two new neutral Pd(II) complexes (4–5) were designed, synthesized and characterized by spectroscopic and spectrometric techniques. Molecular structures of compounds 1, 3 and 5 were obtained by X-Ray Diffraction. Addition of AgPF6 to compounds 4–5 produced two new cationic Pd(II) complexes stabilized by an exocyclic nitrile intermolecular interaction (6–7). The spectrometric characterization of these compounds confirms a dimeric nature of the complexes and an enhanced air/thermal/light resistance. The reactivity towards ethylene oligomerization/polymerization of all complexes (4–7) at 1 bar was evaluated, either as single component or with 1 equivalent of B(C6F5)3. The change of the counterion from PF6− to OTf− allowed to obtain the compound 8, where an improvement of the reactivity was observed. ESI-MS experiments of 8 showed the insertion of up to 16 units of ethylene in the chain.

**Keywords**

α−diimine, Palladium (II), Nitrile group, Oligomerization, Intermolecular stabilization.