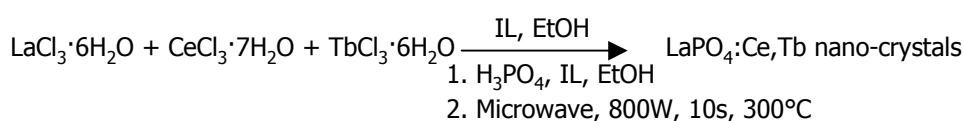


Ionic Liquids for Synthesis and Stabilization of Nanoparticles

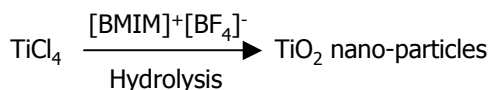
Ionic liquids are interesting, innovative media for the synthesis of a wide variety of inorganic materials and compounds. The combination of low vapour pressure with liquidity over wide range of temperatures and their good dissolution behaviour in general make them ideal solvents for this increasingly important application, especially in view of nano-scaled materials synthesis. In addition, they often have a pre-organized structure, they have an intrinsic charge and they are polarizable. These properties enable them to control size, size-distribution and shape of nano-scaled materials. In summary, the concept of "designer solvents" became true for inorganic synthesis, in particular.^[1-3]

Selected Examples:

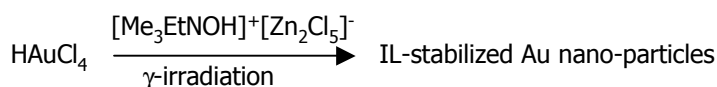
• Microwave-assisted synthesis of luminescent LaPO₄:Ce,Tb nano-particles [4]



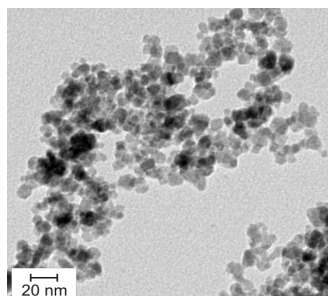
• Synthesis of TiO₂ anatas nano-particles [5]



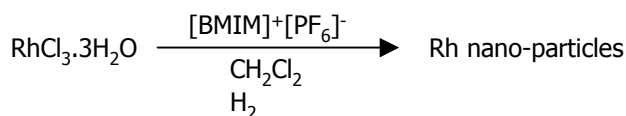
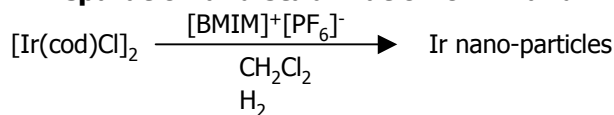
• Synthesis of gold nano-particles using γ -irradiation [6]



Different sizes can be obtained depending on the co-solvent.



• Preparation and stabilization of Rh and Ir nano-particles [7]



Product Code	Compound	Quantities
IL-0115-HP	1-Hexadecyl-3-methylimidazolium chloride, >98 %	25 g to bulk
IL-0012-HP	1-Butyl-3-methylimidazolium tetrafluoroborate, 99%	25 g to bulk
IL-0011-HP	1-Butyl-3-methylimidazolium hexafluorophosphate, 99%	25 g to bulk
IL-0117-HP	Tributylmethylammonium bis(trifluoromethyl-sulfonyl)imide, 99%	25 g to bulk
IN-0006-TG	Trihexyltetradecylphosphonium chloride, >95%	25 g to bulk
IL-0013-HP	1-Butyl-3-methylimidazolium triflate, 99%	25 g to bulk

References:

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 [5] Y. Zhou, M. Antonietti, *J. Am. Chem. Soc.* **2003**, *125*, 14960.
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 [7] G.S. Fonseca, A.P. Umpierre, P.F.P. Fichtner, S. R. Teixeira, J. Dupont, *Chem. Eur. J.* **2003**, *9*, 3263.

