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# Palladium–Poly(Ionic Liquid) Membranes for Permselective Sonochemical Flow Catalysis

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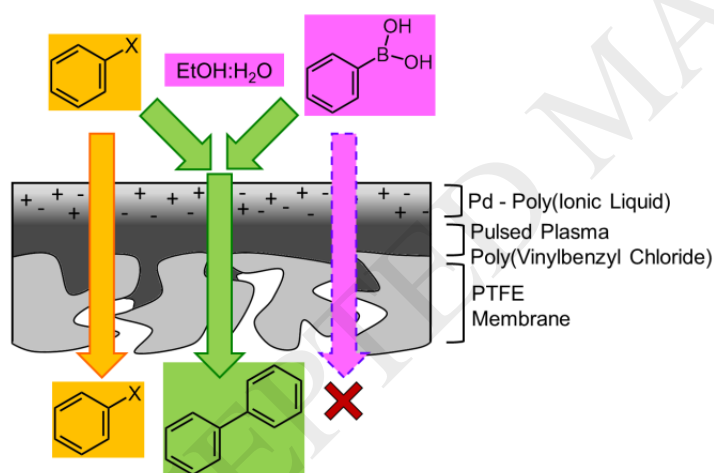
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## ABSTRACT

Anisotropic palladium–poly(ionic liquid) catalyst membranes have been prepared by complexation of palladium(II) chloride to poly(ionic liquid) functionalised flexible porous substrates. The practical viability of these low loading (sub 0.1 mol%) palladium catalyst membranes for continuous flow reactions at ambient temperature is demonstrated for the Suzuki–Miyaura carbon–carbon coupling reaction by contacting the reactant mixture with the catalyst membrane and applying sonication. The Suzuki–Miyaura carbon–carbon coupling reaction proceeds at the palladium–poly(ionic liquid) catalyst membrane surface in conjunction with selective permeation (separation) of the desired

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