

Supplementary Information for

High-performing supported catalysts with an ionic liquid layer for the selective hydrogenation of acetylene

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Table S1 CO chemisorption data for different Pd-Ag shell SCILL

IL	IL loading [$\text{g}_{\text{IL}}/\text{g}_{\text{catalyst}}$]	CO [$\mu\text{mol}/\text{g}_{\text{catalyst}}$]
without	--	0.27
BMIM DCA	0.01	0.27
	0.025	0.25
	0.05	0.21
	0.1	0.21
DMIM MeHPO ₃	0.01	0.13
	0.025	0.09
	0.05	0.09

catalysts.

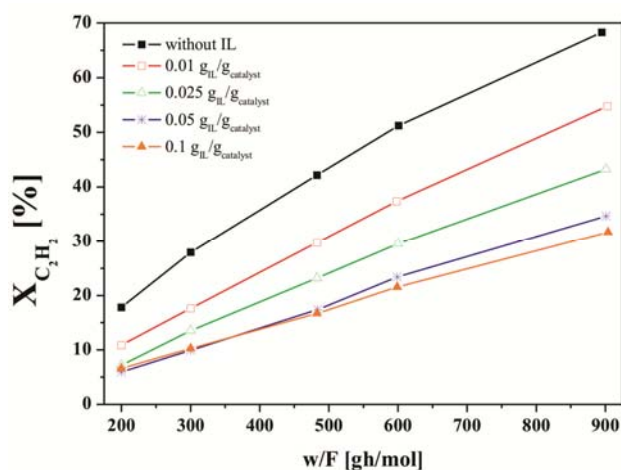


Fig. S1 Acetylene conversion for Pd-Ag SCILL systems with various [BMIM][DCA] loadings

(conditions: 10 bar, $\frac{W}{F_{\text{C}_2\text{H}_2}} = 483 \text{ gh mol}^{-1}$, 1 vol% C₂H₂, 1 vol% H₂, 1 vol% C₃H₈, 30 vol% C₂H₄ in Ar).

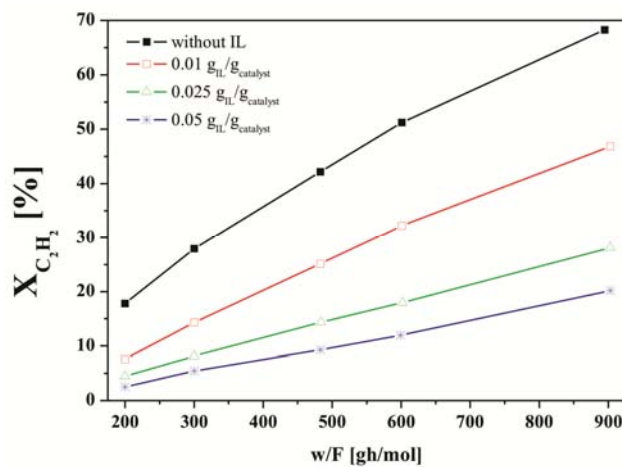


Fig. S2 Acetylene conversion for Pd-Ag SCILL systems with various [DMIM][MeHPO₃] loadings

(conditions: 10 bar, $\frac{W}{F_{\text{C}_2\text{H}_2}} = 483 \text{ gh mol}^{-1}$, 1 vol% C₂H₂, 1 vol% H₂, 1 vol% C₃H₈, 30 vol% C₂H₄ in Ar).