

**Supplementary Material**

Table S1. Collection efficiencies ( $N = I_{\text{coll}} / I_{\text{gen}}$ ) for hydrogen evolution at the generator ( $I_{\text{gen}}$ ) electrode (potential-step from 0.31 to 0.03 V) with simultaneous oxidation of the produced hydrogen at the pc-Pt collector ( $I_{\text{coll}}$ ) biased at 0.3 V, as a function of the electrolyte flow rate.

Working electrode (generator)	Electrolyte flow rate ( $\mu\text{l s}^{-1}$ )		
	1	10	30
pc-Pt	0.56	0.71	0.44
<i>HCL-20</i>	0.62	0.7	0.49
<i>HCL-10</i>	0.76	0.81	0.43
<i>HCL-01</i>	--	0.71	0.53
GC	--	0.75	0.37