

Supporting information for

Aqueous phase reforming of glycerol to 1, 2-propanediol over Pt-nanoparticles supported Hydrotalcite in absence of hydrogen[†]

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Fig. S1

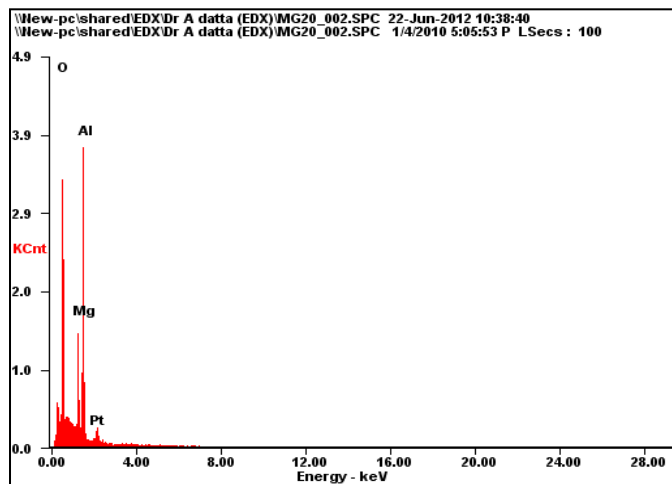


Figure S1: Energy-dispersive X-ray spectroscopy (EDX) of Pt-HT catalyst.

Fig. S2

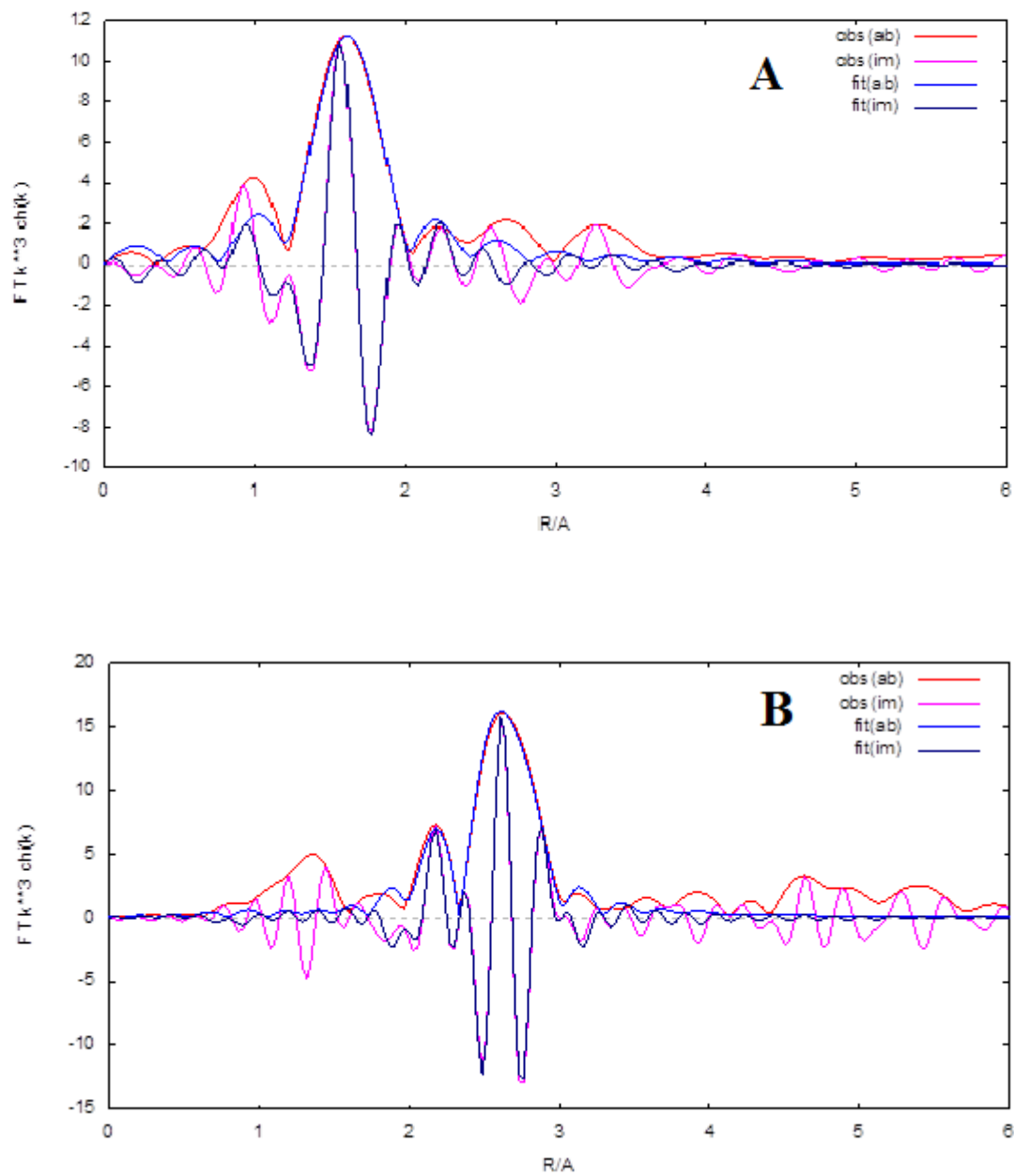


Figure S2: Pt LIII-edge EXAFS spectra of Pt-HT (**A**) Fresh catalyst, (**B**) spent catalyst

Fig. S3

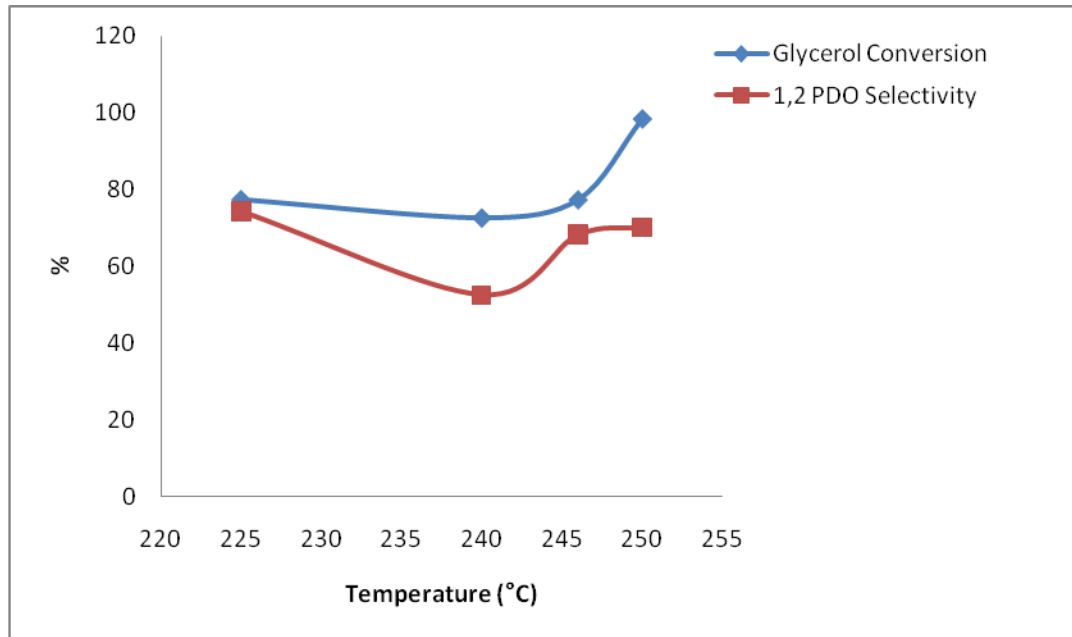


Figure S3: Effect of reaction temperature on Aqueous Phase Reforming of Glycerol for glycerol conversion and 1,2 Propanediol selectivity.

Fig. S4

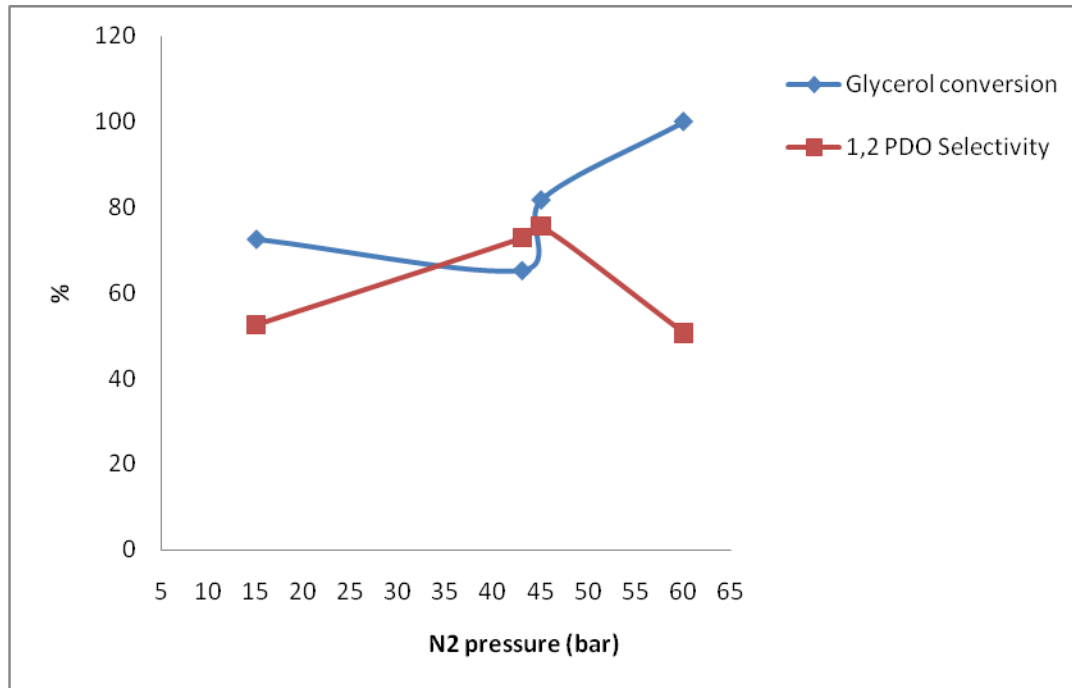


Figure S4: Effect of reaction pressure on Aqueous Phase Reforming of Glycerol for glycerol conversion and 1,2 Propanediol selectivity.

Table S1: Activity of Pt-HT at different calcination temperatures for APR of glycerol^a.

Entry	Glycerol Conv. (%)	Liquid products Selectivity (%)					Gas products Selectivity (%)			
		EtOH	2-Pr nol	1-Prnol	Acetol	1,2 PD	EG	H ₂	CO ₂	Alkane
1 ^b	98.4	1.5	8.3	3.4	4.9	74.1	7.8	75.0	23.4	1.6
2 ^c	94.7	1.3	9.6	4.7	1.3	75.5	7.6	74.4	24.4	1.2

^a 2 g glycerol in 20 ml water, 45 bar N₂, 250 °C, catalyst wt. = 0.2 g (Pt was loaded on HT followed by calcination), reaction time = 3h., Al₂O₃: MgO = 80:20. ^b calcined at 260°C ^c calcined at 450°C.

Table S2: Effect of time in aqueous phase reforming of glycerol over Pt-HT.

Reaction Time	Glycerol Conversion (%)	Liquid products Selectivity (%)						Gas products Selectivity (%)		
		EtOH	2-Prol	1-Prol	Acetol	1,2 PD	EG	H ₂	CO ₂	Alkanes
1h	69.5	-	11.8	2.1	8.3	71.4	6.4	64.7	30.7	4.6
2 h	79.1	2.1	16.3	3.1	7.9	64.7	5.9	70.1	26.8	3.1
3h	89.6	1.9	13.6	6.1	4.7	68.7	5.0	87.6	11.2	1.2
4h	100	1.6	17.8	7.2	5.8	63.7	3.9	48.7	45.9	5.4

2 g glycerol in 20 ml water; catalyst wt. = 0.2 g, 45 bar N₂, Temp. = 250°C