Supporting Information

Selective Nitration of Phenol to *o*-Nitrophenol in the Presence of Metal Free Reduced Graphene Oxide at Room Temperature

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Figure S1. ^{1}H NMR (CDCl$_3$, 500 MHz) of the reaction mixture of nitration of phenol using GO as catalyst
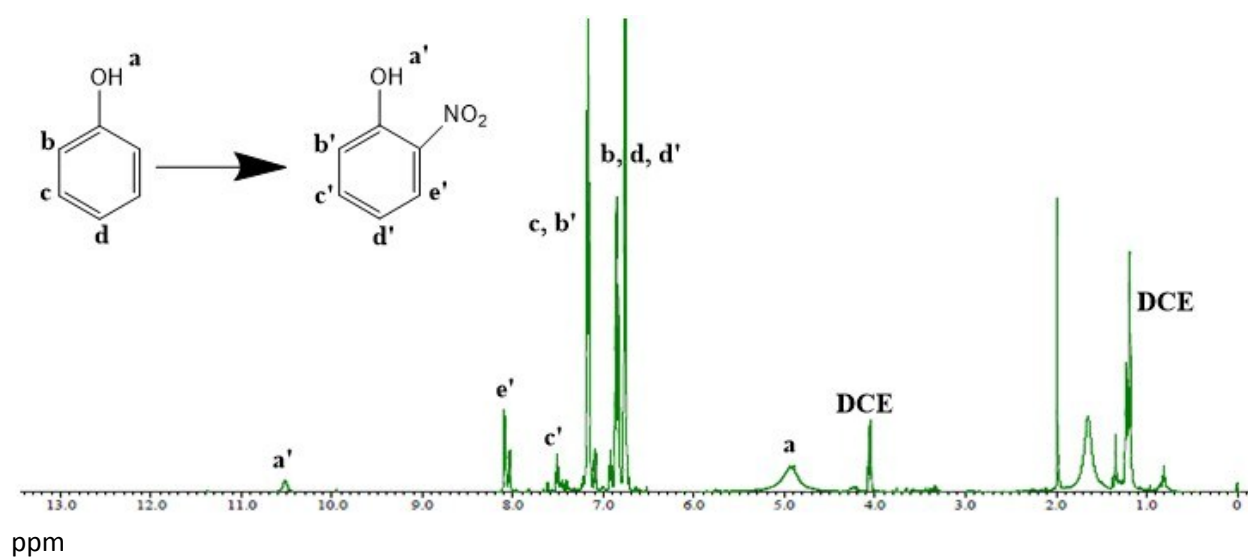

ppm

Figure S2. ^{1}H NMR (CDCl$_3$, 500 MHz) of the reaction mixture of the nitration of phenol in the absence of catalyst
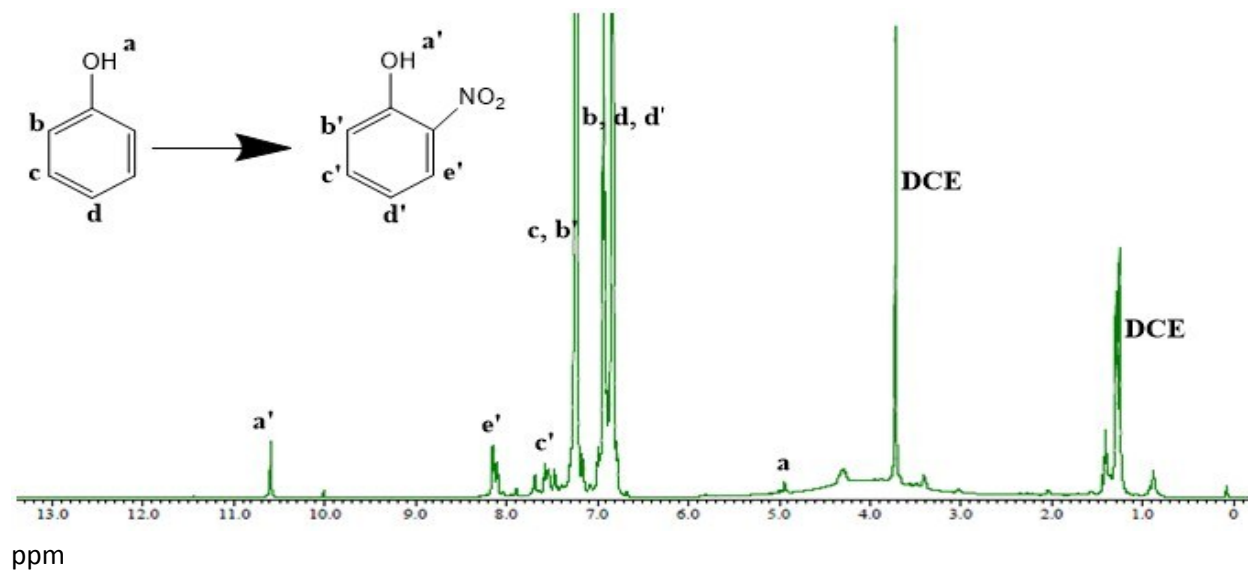

Table S1. Comparative Table for the results of the Nitration phenol using different catalysts

Entry	Catalyst	Nitrating reagent	Solvent	Temperature (°C)	Time (h)	Conversion (%)	Selectivity of o-NP (%)	Selectivity of p-NP (%)	Selectivity of other products (%)	O/P ratio	Ref
1	ZSM-5 Zeolite	Nitric acid	chloroform	25	2	95.5	30.9	64.4	4.50	0.47	1
2	Tetrabutylammonium dichromate (TBAD)	Sodium nitrate	DCE	25	48	100	40	40	—	1.0	2
3	γ-alumina	Nitric acid	Carbon tetrachloride	25	4.5	50	100	—	—	—	3
4	Silicotungstic acid supported zirconia (ZSTA)	Nitric acid	DCM	25	1	95	90	10	—	9.0	4

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5	p-toluene sulfonic acid (PTSA)	Nickel nitrate hexahydrate [Ni(NO$_3$)$_2$ 6H$_2$O]	Acetone	25	0.5	100	85% Yield	—	—	—	5
6	zeolite H-beta	Nitric acid	Carbon tetrachloride	25	2	96	87	10	3	8.70	6
7	Iron loaded Sulfated Titania (STFE)	Nitric acid	Sol-gel rout	0	2	80.8	80.5	4.6	3.3	1 7.5	7
8	Cromium loaded Sulfated Titania (STCR)	Nitric acid	Sol-gel rout	0	2	90	97.5	—	1.4	—	8
9	MoO$_3$/TiO$_2$–SiO$_2$ mixed oxide	Nitric acid	Carbon tetrachloride	25	4	95	51	48	1	1.07	9
10	WO$_3$ loaded on nano-crystalline sulfated SnO$_2$	Nitric acid	acetone	60	—	97.8	94.2	3.6	2.2	26.1 7	10
11	TBAB – ultrasononically assisted	Nitric acid	DCM	25	6	95	83	16	—	5.25	11
12	silica supported H$_4$PW$_{11}$VO$_{40}$	Nitric acid	DCE	25	3	92	97	3	—	32.3 3	12
13	Reduced Graphene Oxide	Nitric acid	DCE	25	3	98.3	100	—	—	—	**This work**

References

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