Supporting Information

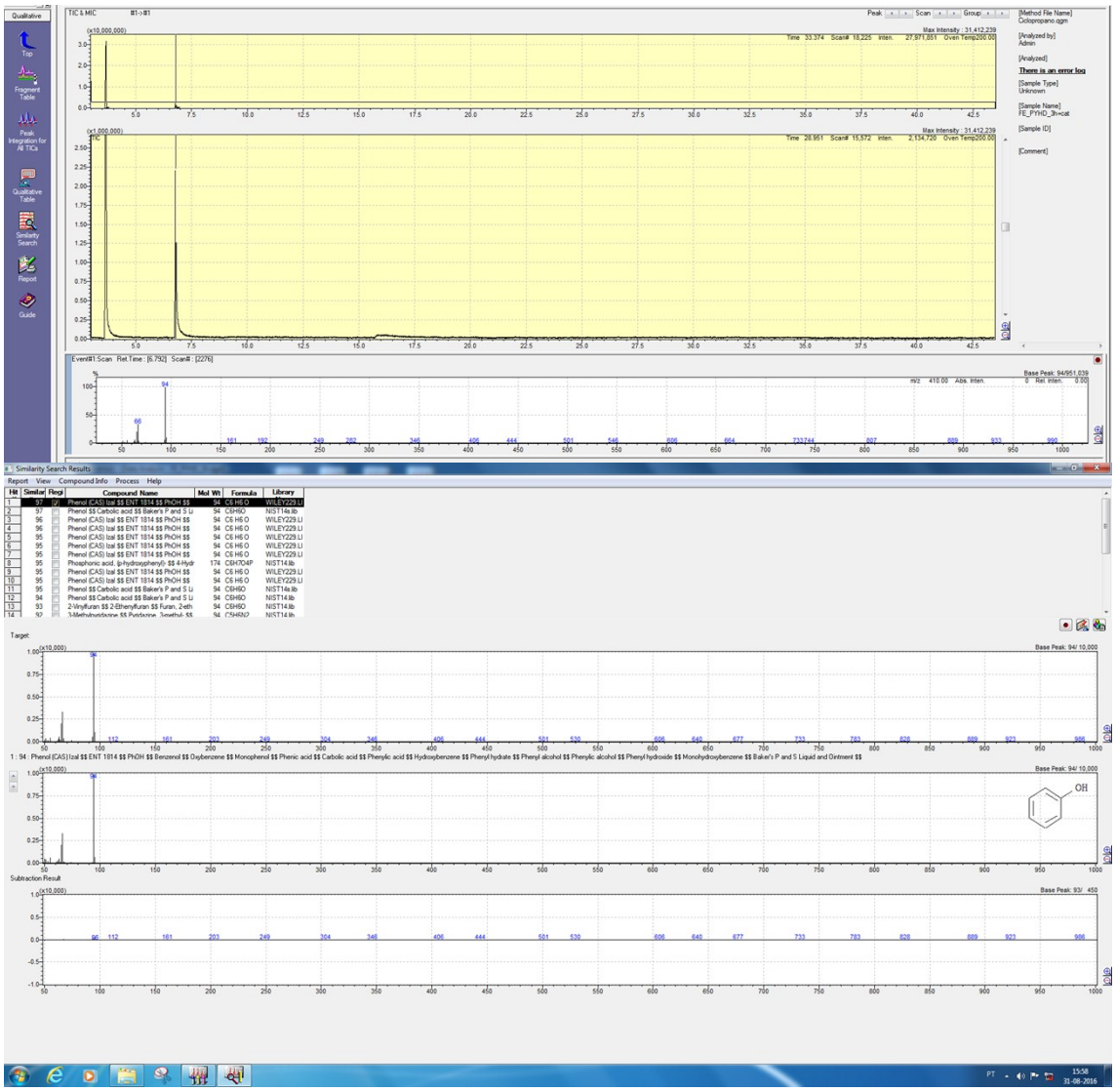

Fig. S1. Chromatogram obtained for the oxidation of benzene with hydrogen peroxide using [Fe(pyhd)Cl_2] as homogeneous catalyst after 3 hours of reaction at 50ºC in acetonitrile, mass spectra for the major product peak at 6.8 min and result of corresponding search in the data base.

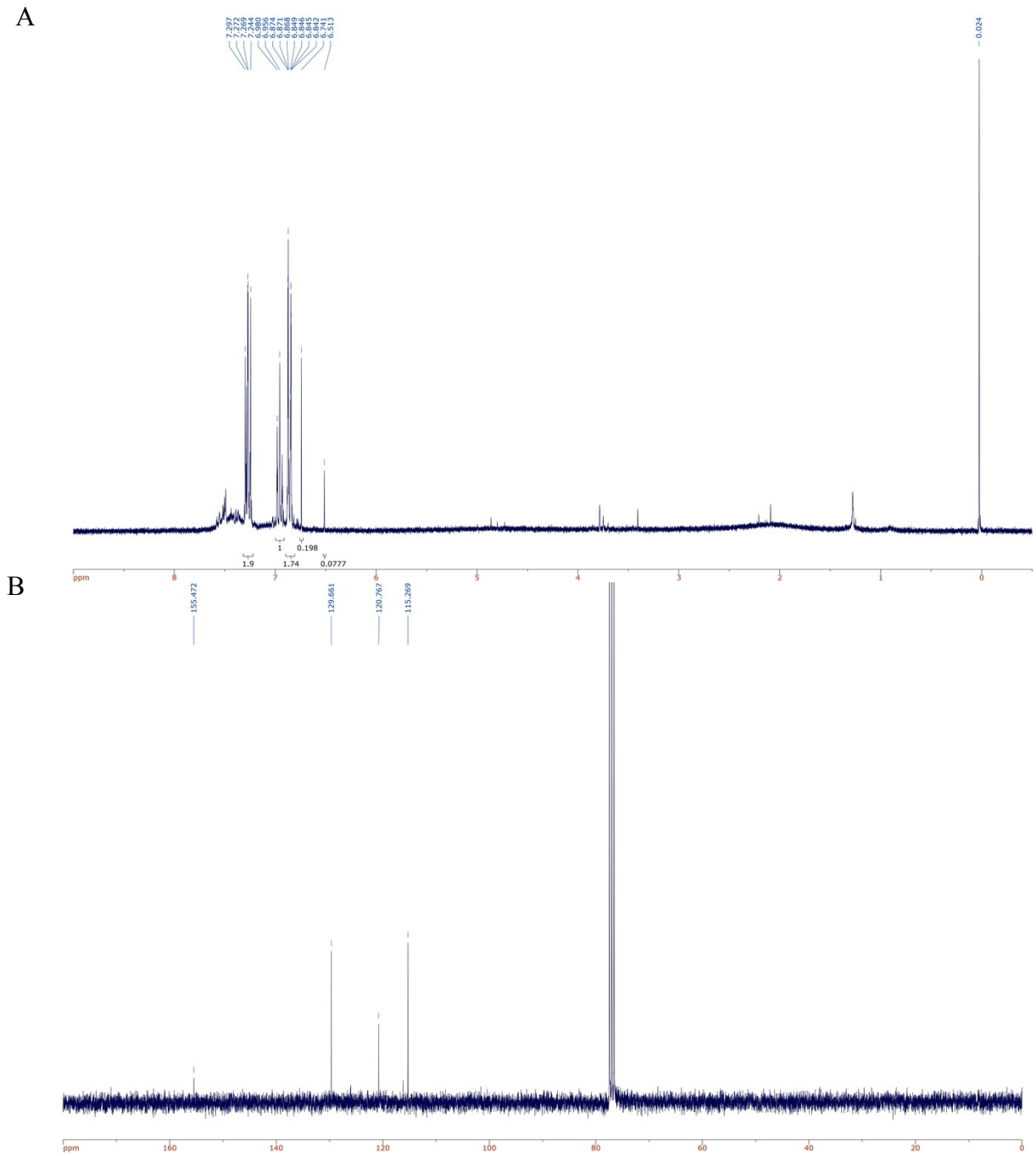

Fig. S2. NMR spectra in $CDCl_3$ for the phenol isolated by column chromatography using as eluent 20 petroleum ether: 80 ethyl acetate from the oxidation of benzene with hydrogen peroxide using [Fe(pyhd)Cl_2] as homogeneous catalyst after 3 hours of reaction at 50ºC in acetonitrile: (A) ^{1}H and (B) ^{13}C.

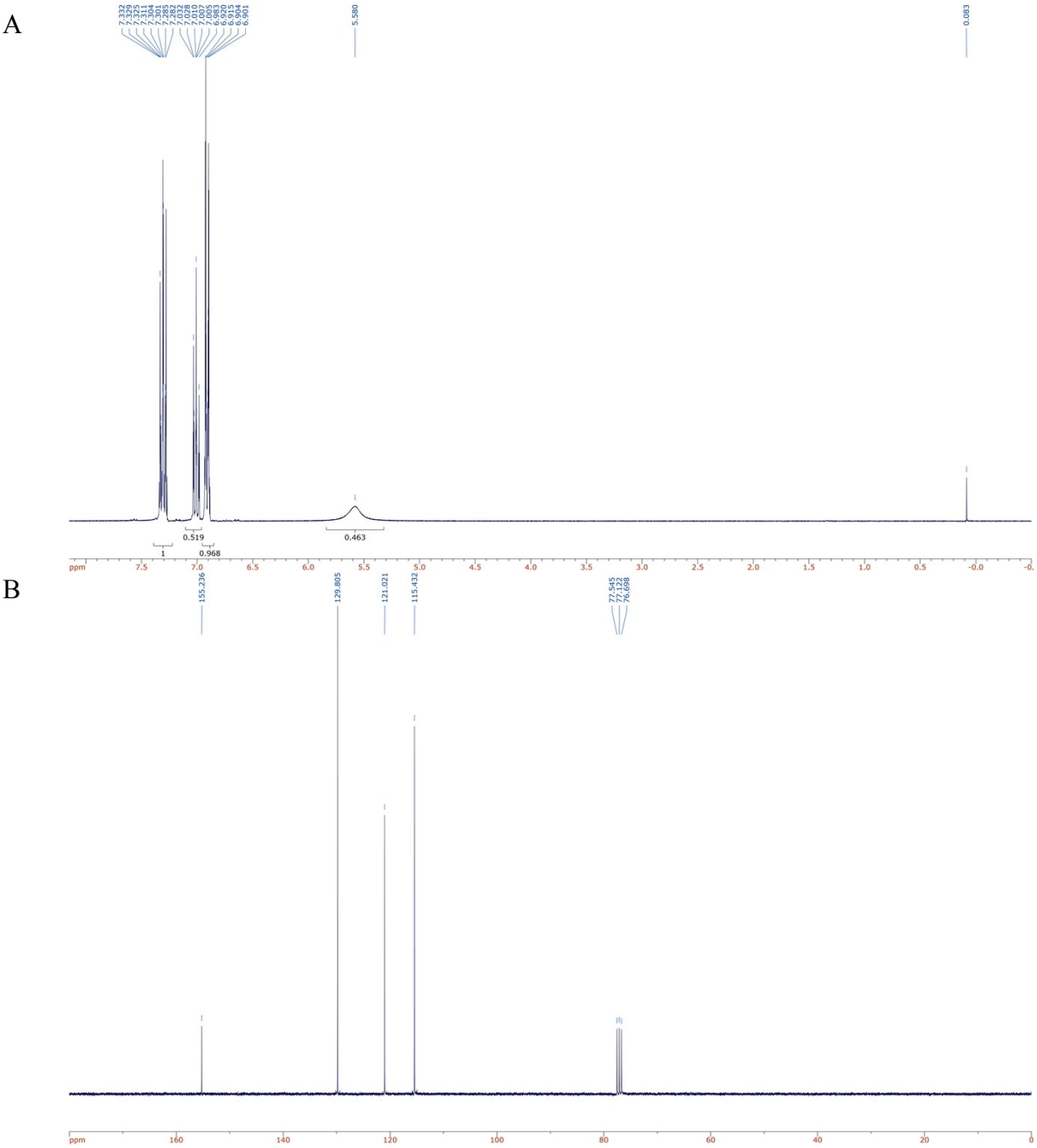

Fig. S3. NMR spectra in $CDCl_3$ for phenol (Aldrich): (A) ^{1}H and (B) ^{13}C.

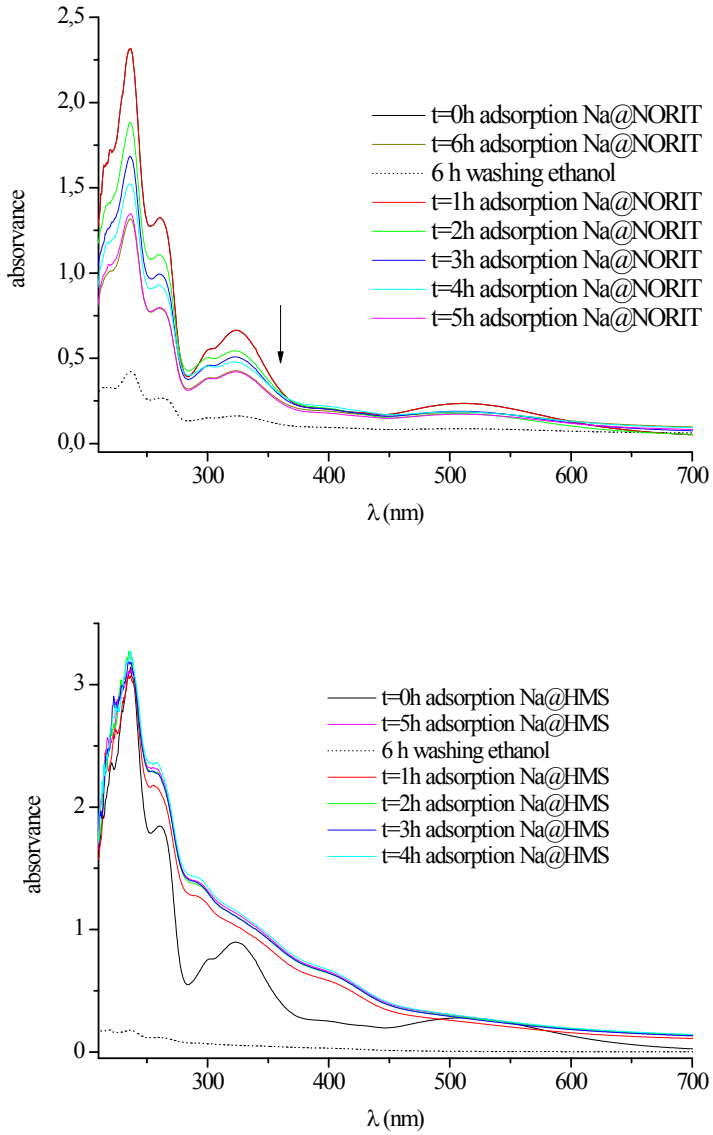

Fig. S4. UV-visible spectra of the adsorption of the [Fe(salhd)Cl] complex onto the Na@HMS and Na@AC materials in ethanol, as well as the washing ethanol solution of both materials.

Table S1. Elemental analysis for the silica and carbon materials

	%C	%H	%N	[Fe(salhd)] (μmol/g)
HMS	0.20	0.16		
Na@HMS	0.20	0.83		
[Fe(salhd)]@HMS	0.83	0.51	0.01	26[a]
AC	86.13	0.55	0.47	
Na@AC	80.94	0.52	0.45	
[Fe(salhd)]@AC	82.13	0.40	0.69	86[b]

[a] Calculated from the variation in the %C, taking into consideration that the [Fe(salhd)] has 20 carbon atoms.
[b] Calculated from the variation in the %N, taking into consideration that the [Fe(salhd)] has 2 nitrogen atoms. If the variation in the %C 50 μmol/g of [Fe(salhd)] would be obtained.

Table S2. XPS analysis for the silica and carbon materials

	%C	%O	%Na	%Si	%Cl	%N	%Fe	[Fe(salhd)] (μmol/g)[a]
Na@HMS	3.54	68.38	0.02	28.05				
[Fe(salhd)]@HMS	6.86	67.27	0.54	24.27	0.07	0.16	0.83	44
Na@AC	91.75	7.06	0.36		0.09	0.75		
[Fe(salhd)]@AC	94.63	4.29	—		0.14	0.82	0.11	9.0

[a] Calculated from the iron atomic%.

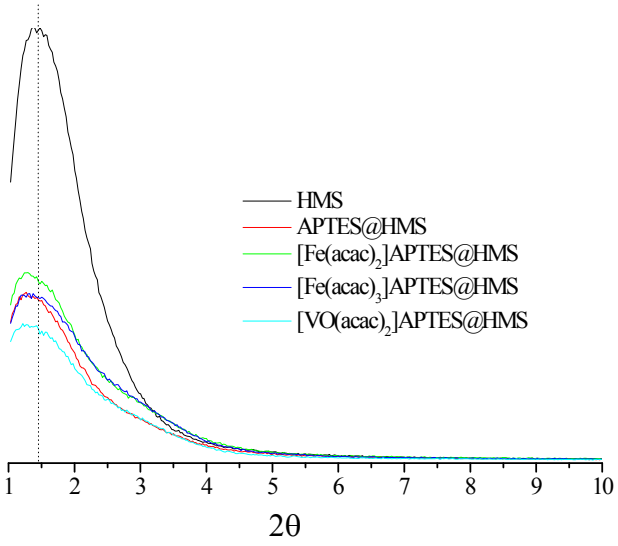

Fig. S5. XRD patterns for the HMS, APTES@HMS, [Fe(acac)$_2$]APTES@HMS, [Fe(acac)$_3$]APTES@HMS and [VO(acac)$_2$]APTES@HMS

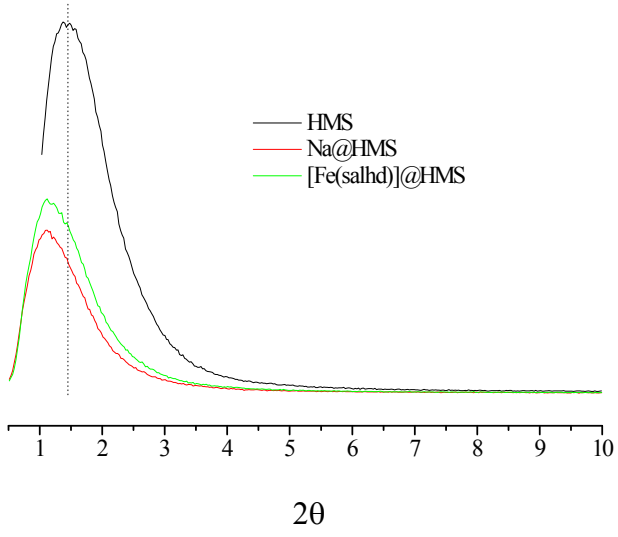

Fig. S6. XRD patterns for the HMS, Na@HMS and [Fe(salhd)]@HMS materials.

Table S3. d_{100} spacing and a_0 for the HMS materials

	d_{100} (nm)	a_0 (nm)
HMS	3.2	3.7
APTES@HMS	3.5	4.0
[Fe(acac)$_2$]APTES@HMS	3.4	3.9
[Fe(acac)$_3$]APTES@HMS	3.6	4.2
[VO(acac)$_2$]APTES@HMS	3.6	4.2
Na@HMS	3.9	4.5
[Fe(salhd)]@HMS	3.9	4.5

[a] Calculated using the Bragg equation.
[b] Calculated using the equation: $a_0 = 2d_{100}/\sqrt{3}$.