

Supplementary Material

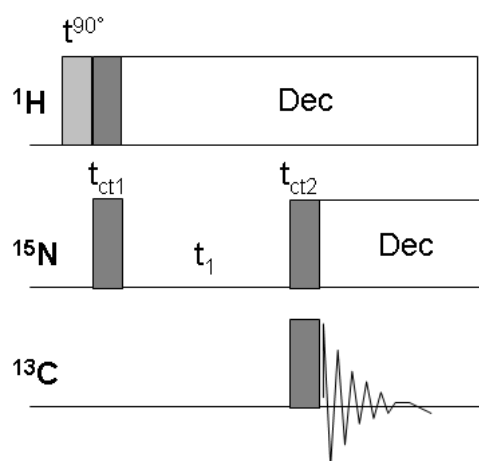
Structural Insights on Nitrogen-containing *Hydrothermal Carbon* using Solid-State MAS ^{13}C and ^{15}N NMR

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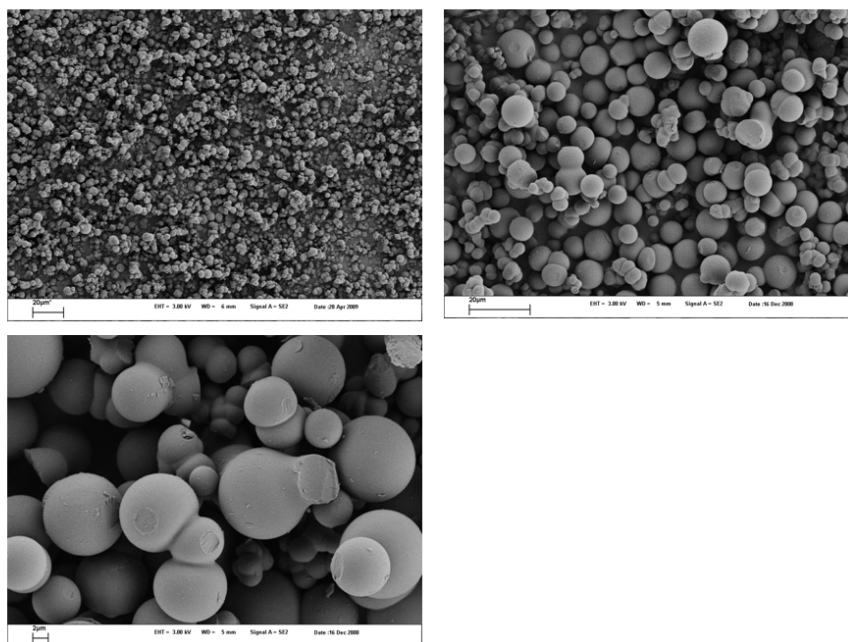
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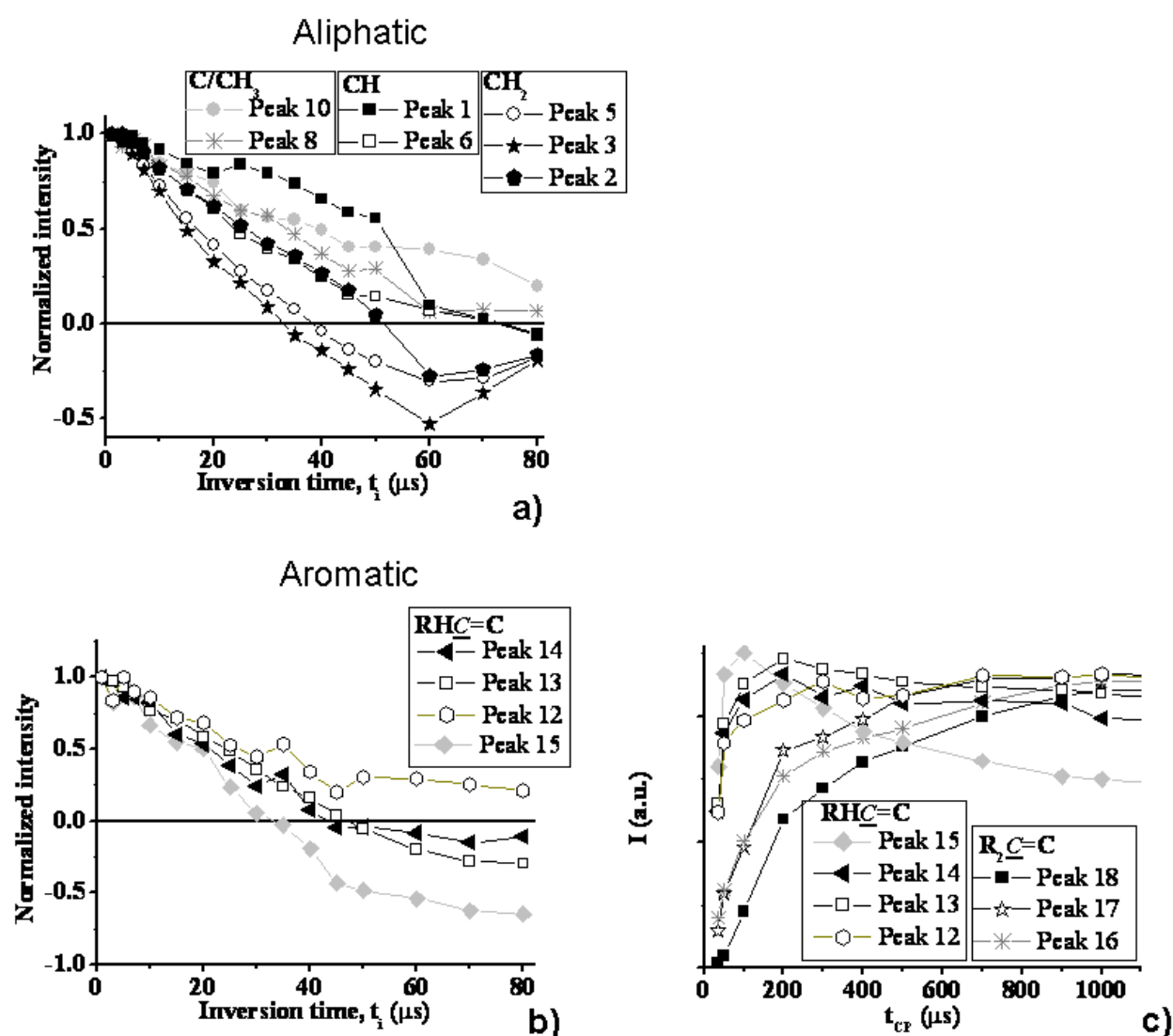
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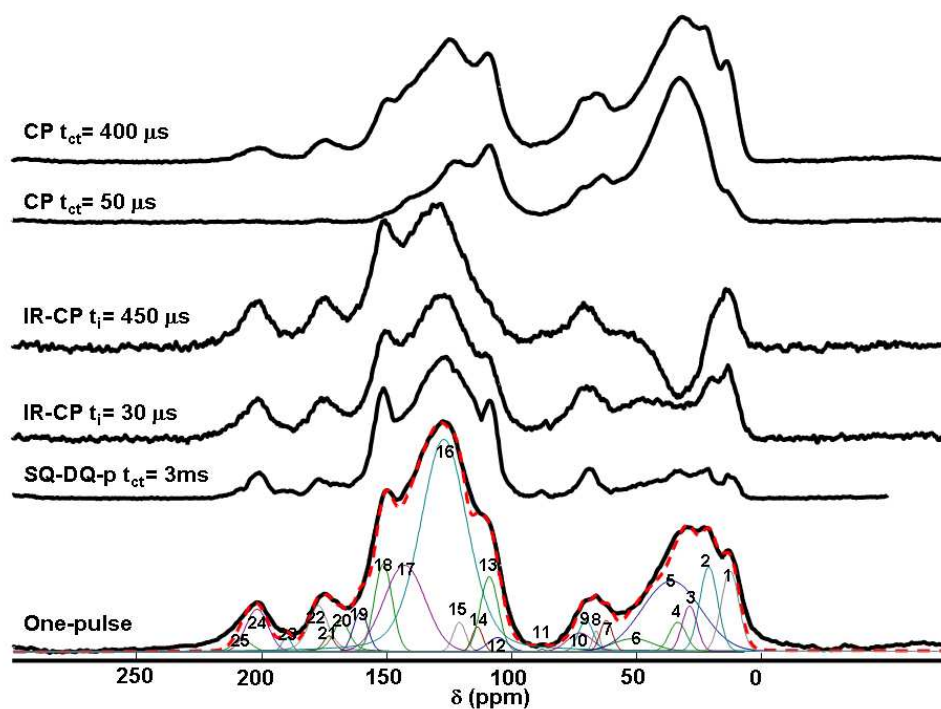
Sup Mat Figure 1 - Scheme of the double cross polarization $^{15}\text{N}\{^1\text{H}\}$ and $^{13}\text{C}\{^{15}\text{N}\}$ pulse sequence employed for the 2D ^{15}N - ^{13}C experiment.



Sup Mat Figure 2 - SEM images of the nitrogen-containing hydrothermal carbon particles obtained from the glucose/glycine mixture



Sup Mat Figure 3 - *HC glu-C13-N15-gly*: evolution (normalized) of the ^{13}C IRCP (a,b) and CP (c) and integrated intensities of selected peaks IRCP characteristics of the aliphatic (10-70 ppm) and aromatic (100-160 ppm) regions. Refer to Supp Mat Table 1 for the attribution of peaks. The variation $I(t_i)$ in IRCP can be interpreted as follows: $I > 0$ (C or CH_3); $I \rightarrow 0$ (CH); $I \rightarrow -1/3$ (CH_2).



Sup Mat Figure 4 - *HC glu-C13-N15-gly*, from top to bottom. CP spectra obtained at $t_c = 400$ and $50 \mu s$; IR-CP experiments performed at inversion time, $t_i = 450$ and $30 \mu s$; SQ-DQ projection obtained for a $^{13}C\{^1H\}$ $t_c = 3 ms$; one-pulse spectrum.

Supp Mat Table 1 – Chemical shift listing and attribution of the peaks from 1 to 24 listed in Error!
Reference source not found.a.

Peak	δ (ppm)	Attribution
1	12.9	CH ₃
2	21.4	CH/CH ₂
3	29.0	CH ₂
4	33.8	-
5	36.3	CH ₂
6	51.7	CH
7	62.4	CH ₂
8	66.5	CH
9	70.6	C-NH
10	73.0	C
11	88.2	C or CH ₃
12	106.7	C=CH
13	109.3	C=CH ₂
14	114.1	C=CH
15	121.3	C=CH
16	127.5	C=C; C=N
17	143.2	C=C; C=N
18	151.8	C=C
19	160.9	COOH
20	168.6	COOH
21	173.6	COOH
22	177.8	COOH
23	190.5	C=O
24	202.4	C=O
25	207.2	C=O