

Supporting Information

High yields of bio-oils from hydrothermal processing of thin black liquor without the use of catalysts or capping agents.

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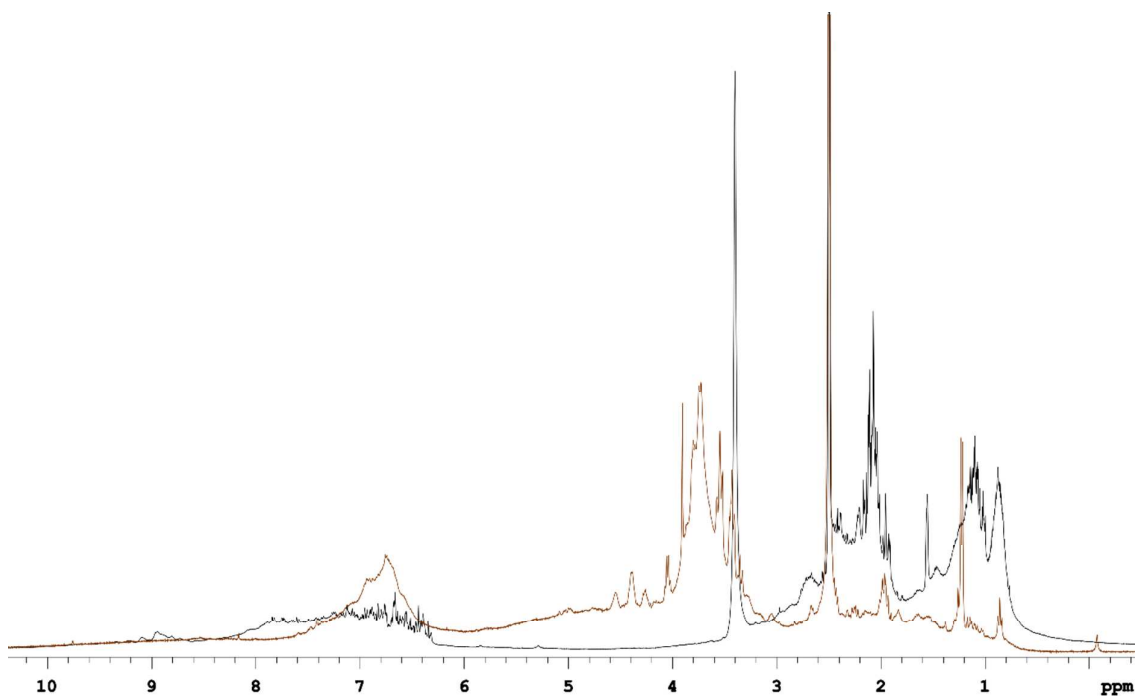
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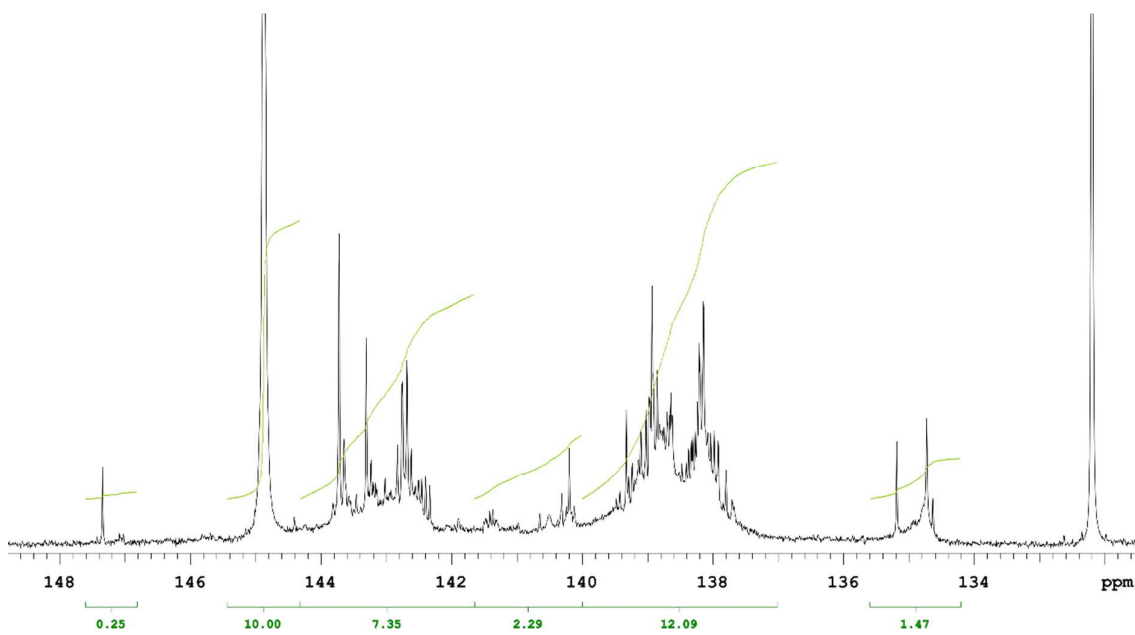
KEYWORDS: Black liquor, hydrothermal liquification, bio oil

Spectra and graphs:

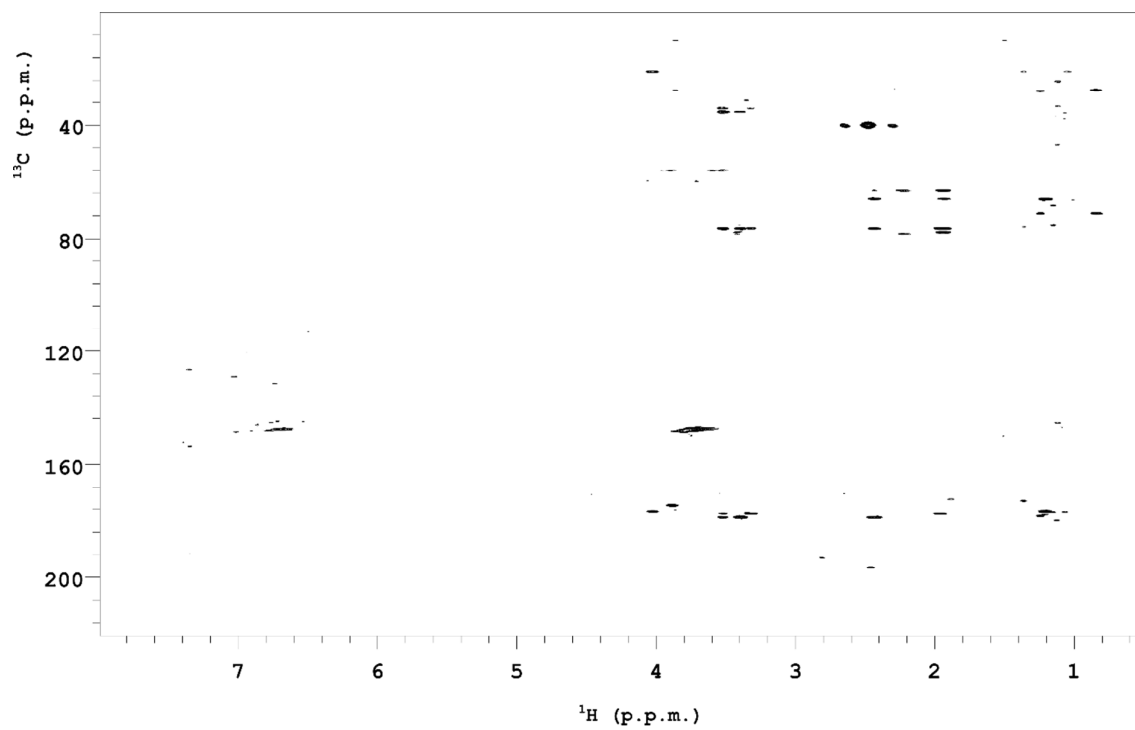
¹H NMR (d-DMSO). Brown: acidified and dried black liquor (16% DS). Black: bio-oil.



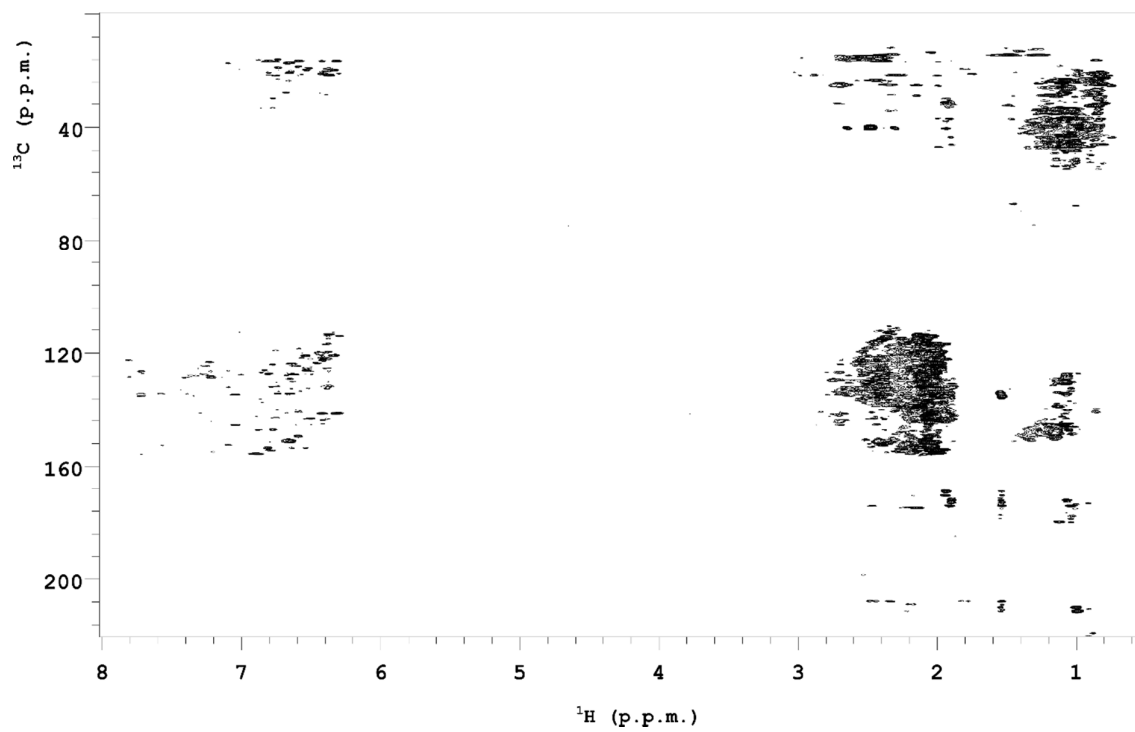
^{31}P NMR. Bio-oil functionalised with 2-chloro-4,4,5,5-tetramethyl-1,3,2-dioxaphospholane.



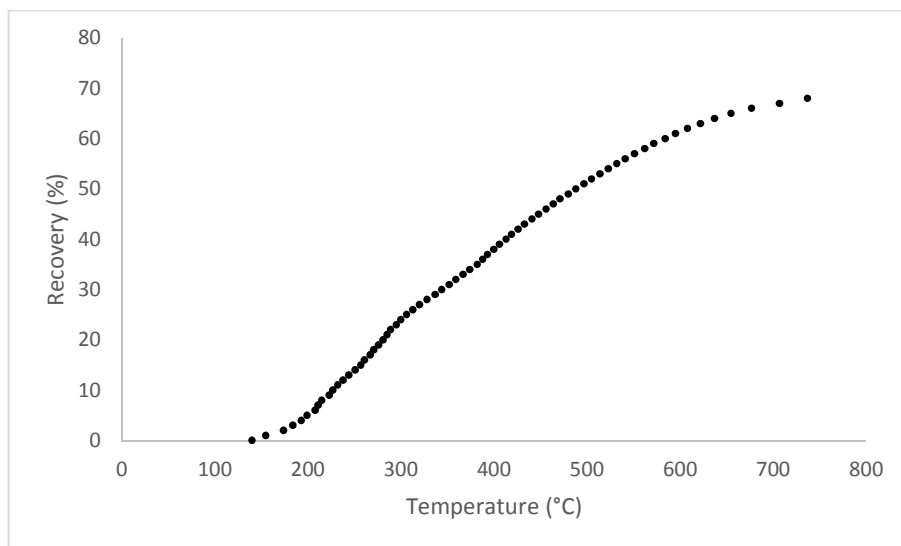
gHMBCAD of acidified and dried black liquor (16% DS).



gHMBCAD of bio-oil.



Simulated distillation by IP507.



Complementary table for Figure 2.

Lign. Conc. (%)	DS (%)	Char (%)	Bio oil (%)
4.7	16.0	6.8	69.9
4.7	16.0	7.3	74.8
10.0	34.1	24.5	63.4
10.1	34.4	25.2	62.2
14.4	49.1	35.0	53.6
14.8	50.5	33.6	59.2
17.7	60.4	40.1	51.4
18.1	61.8	39.8	58.4

MALDI spectrum.

