Supporting Information for

Comparative Study of the Strongest Solid Lewis Acids Known: ACF and *HS*-AlF_3

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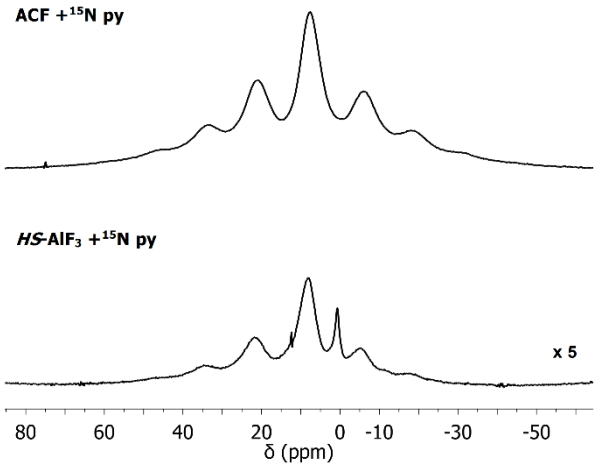
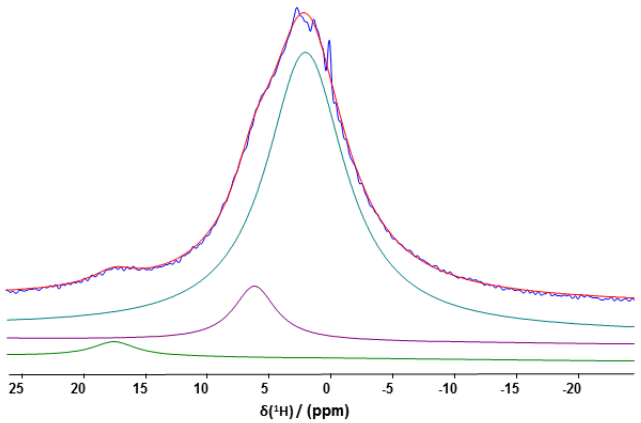


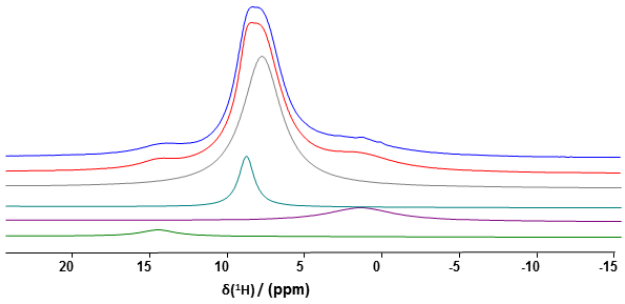
Figure S1. ^{1}H MAS NMR spectra of ACF plus pyridine (top) and *HS*-AlF_3 plus pyridine (bottom); rotation frequency of 5 kHz, p1 = 6.5 µs @ 8,5 db

Simulation by dmfit



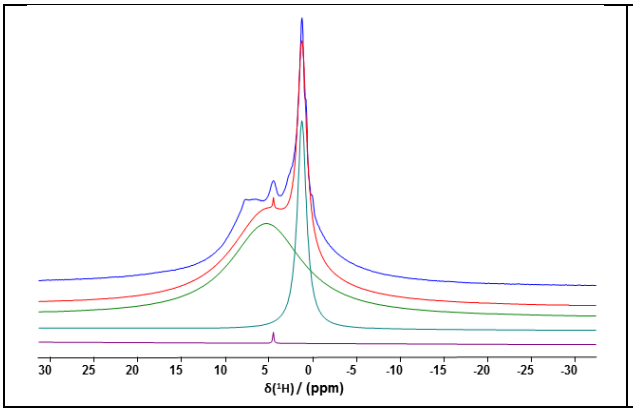
amplitude	position	width	% area
275	15.20	2	1.56
2300	9.01	1.02	6.66
3700	8.04	1.47	15.41
2800	5.10	9.00	71.34
2700	1.08	0.66	5.03

Figure S2. Top blue trace corresponds to the measured ^{1}H MAS NMR spectrum of ACF; subsequent traces are "dmfit" simulated spectra: in red the simulation of the full spectrum; in purple, green and blue the different contributions of the material.



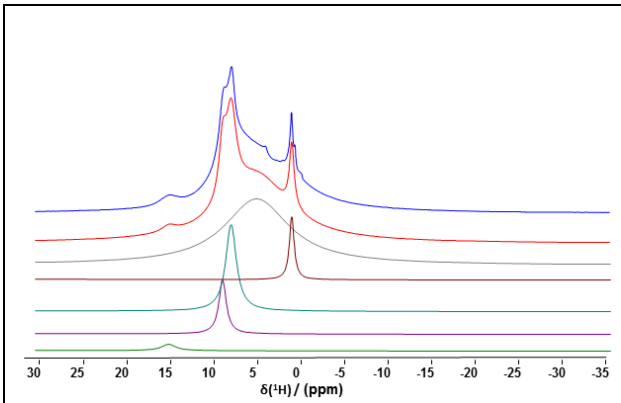
amplitude	position	width	% area
7.40	14.45	2.80	3.68
14.00	1.37	5.20	12.93
52.50	8.75	1.20	11.19
135.50	7.75	3.00	72.20

Figure S3. Top blue trace corresponds to the measured ^{1}H MAS NMR spectrum of ACF+^{15}N-pyridine; subsequent traces are "dmfit" simulated spectra: in red the simulation of the full spectrum; in purple the different contributions of the ACF; in green contribution of the Brønsted acid sites ($^{+}$H-NC$_5$H$_5$), blue and grey the contributions of the aromatic protons of pyridine and pyridinium.



amplitude	position	width	% area
1642.37	5.30	10.00	77.92
188.47	4.52	0.15	0.14
3700.00	1.24	1.25	21.94

Figure S4. top blue trace corresponds to the measured ^{1}H MAS NMR spectrum of *HS*-AlF$_3$; subsequent traces are "dmfit" simulated spectra: in red the simulation of the full spectrum; in purple, green and blue the different contributions of the material.



amplitude	position	width	% area
275	15.20	2	1.56
2300	9.01	1.02	6.66
3700	8.04	1.47	15.41
2800	5.10	9.00	71.34
2700	1.08	0.66	5.03

Figure S5. top blue trace corresponds to the measured ^{1}H MAS NMR spectrum of *HS*-AlF$_3$+^{15}N-pyridine; subsequent traces are "dmfit" simulated spectra: in red the simulation of the full spectrum; in purple the different contributions of the ACF; in green contribution of the Brønsted acid sites ($^{+}$H-NC$_5$H$_5$), blue and grey the contributions of the aromatic protons of pyridine and pyridinium.

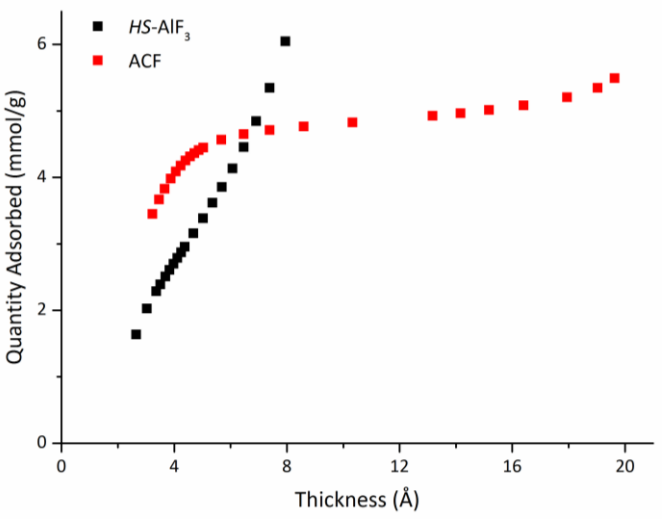


Figure S6. t-plots for ACF and *HS*-AlF_3, considering the calculations of Harkins and Jura (see References).