

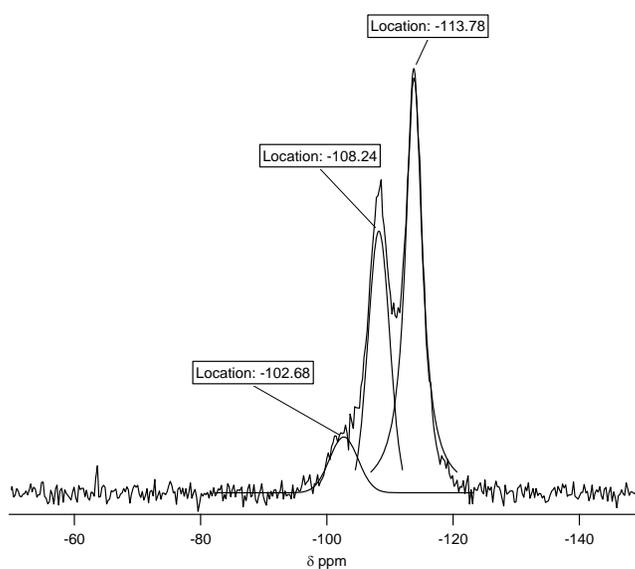
High-Silica, Heulandite-Type Zeolites Prepared by Direct Synthesis and Topotactic Condensation

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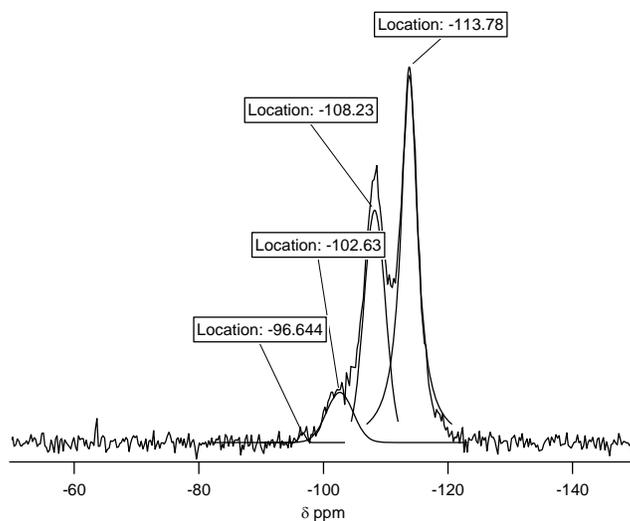
Deconvolution of CIT-8 ²⁹Si MAS NMR.



Peak location	Normalized Area	Coordination
-113.78	1.00	Si(OSi) ₄
-108.24	0.54	Si(OAl)(OSi) ₃
-102.68	0.15	Si(OAl)(OSi) ₃

The Si/Al ratio was found to be 9.8.

Deconvolution of the CIT-8 ^{29}Si MAS NMR including a $\text{Si(OAl)}_2(\text{OSi})_2$ resonance that was found to be insignificant



Peak location	Normalized Area	Coordination
-113.78	1.00	Si(OSi)_4
-108.23	0.545	Si(OAl)(OSi)_3
-102.63	0.147	Si(OAl)(OSi)_3
-96.644	0.007	$\text{Si(OAl)}_2(\text{OSi})_2$

The Si/Al ratio was found to be 9.8.

Silanol Calculation

There are 5 crystallographic unique T sites in **HEU**. T-2 atoms are the only ones exposed to the surface of the layer. The multiplicity of the 5 unique T atoms are:

T1 = 8; **T2 = 8**; T3 = 8; T4 = 8; T5 = 4.

So, ideally, there are **T2** / (T1+T2+T3+T4+T5) = 8/36 = **22.22%** silicon atoms as silanols

