

## Electronic Supplementary Information

### Topotactic Conversion of Layered Silicate RUB-15 to Silica Sodalite through Interlayer Condensation in *N*-Methylformamide

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#### Contents

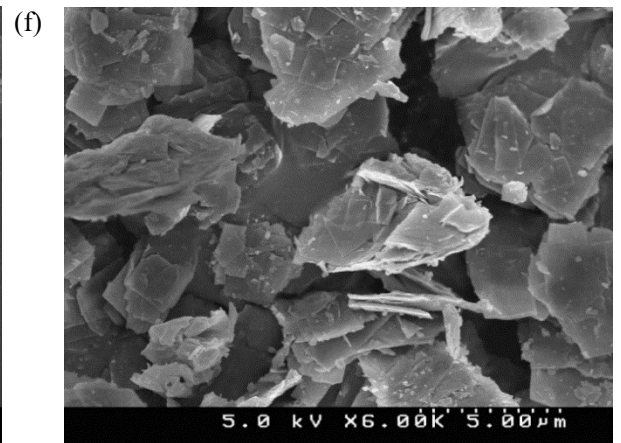
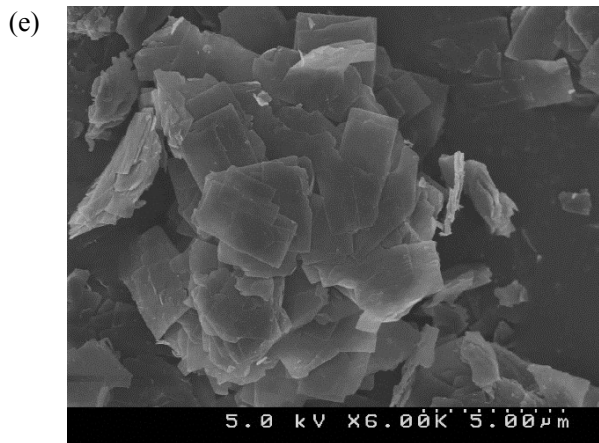
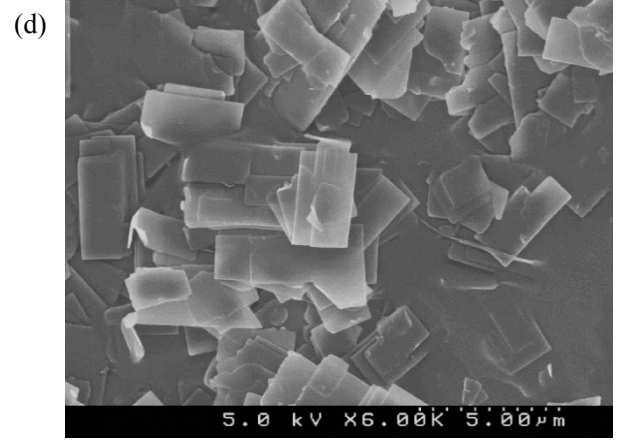
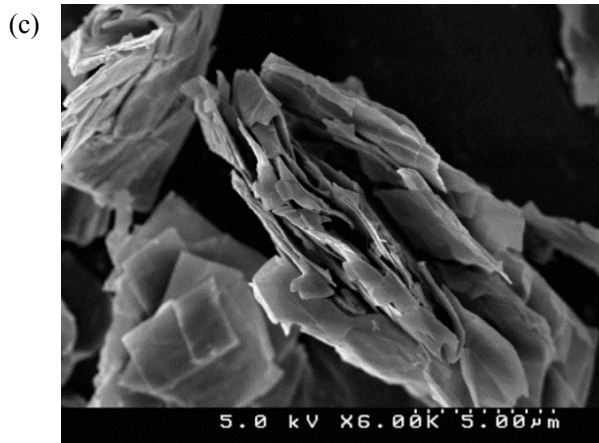
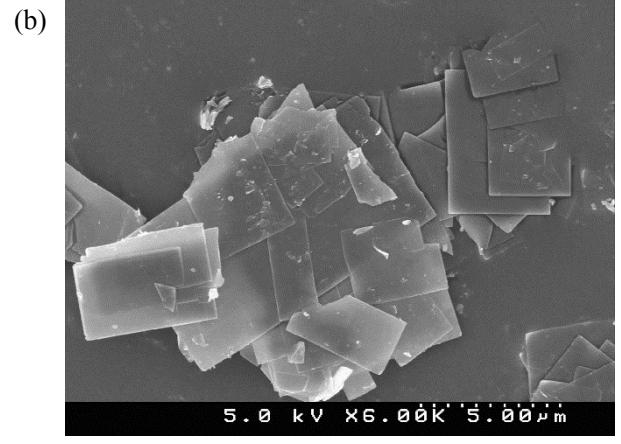
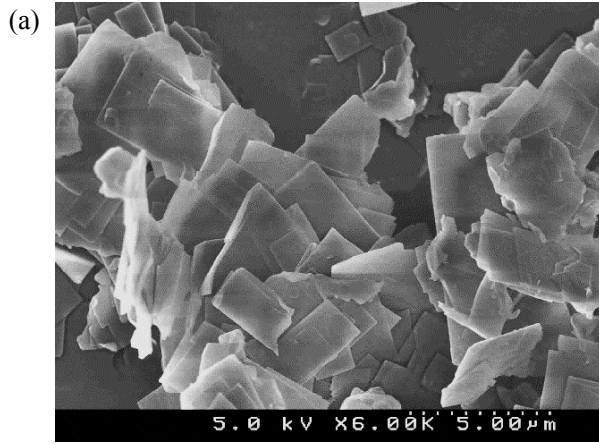
Figure S1. SEM images of (a) RUB-15, (b) H-RUB-15, (c) AcRUB-15, (d) NMF(rt)-Ac-RUB-15, (e) NMF(180rf)-Ac-RUB-15, (f) NMF(180rf)-H-RUB-15, (g) cal-Ac-RUB-15, (h) cal- NMF(rt)-Ac-RUB-15, (i) cal- NMF(180rf)-Ac-RUB-15, and (j) cal-NMF(180rf)-H-RUB-15.

Figure S2. TG-DTA curves of RUB-15.

Figure S3. <sup>13</sup>C CP/MAS NMR spectra of (a) RUB-15, (b) Ac-RUB-15, (c) NMF(rt)-Ac-RUB-15, (d) NMF(180rf)-Ac-RUB-15, and (e) cal-NMF(180rf)-Ac-RUB-15.

Figure S4. TEM image of NMF(180rf)-Ac-RUB-15 and the ED patterns of the selected areas of (a) and (b) indicated in the TEM image with circular white dots.

Figure S5. TEM image of cal-NMF(180rf)-Ac-RUB-15 and the ED patterns of the selected areas of (a) and (b) indicated in the TEM image with circular white dots.



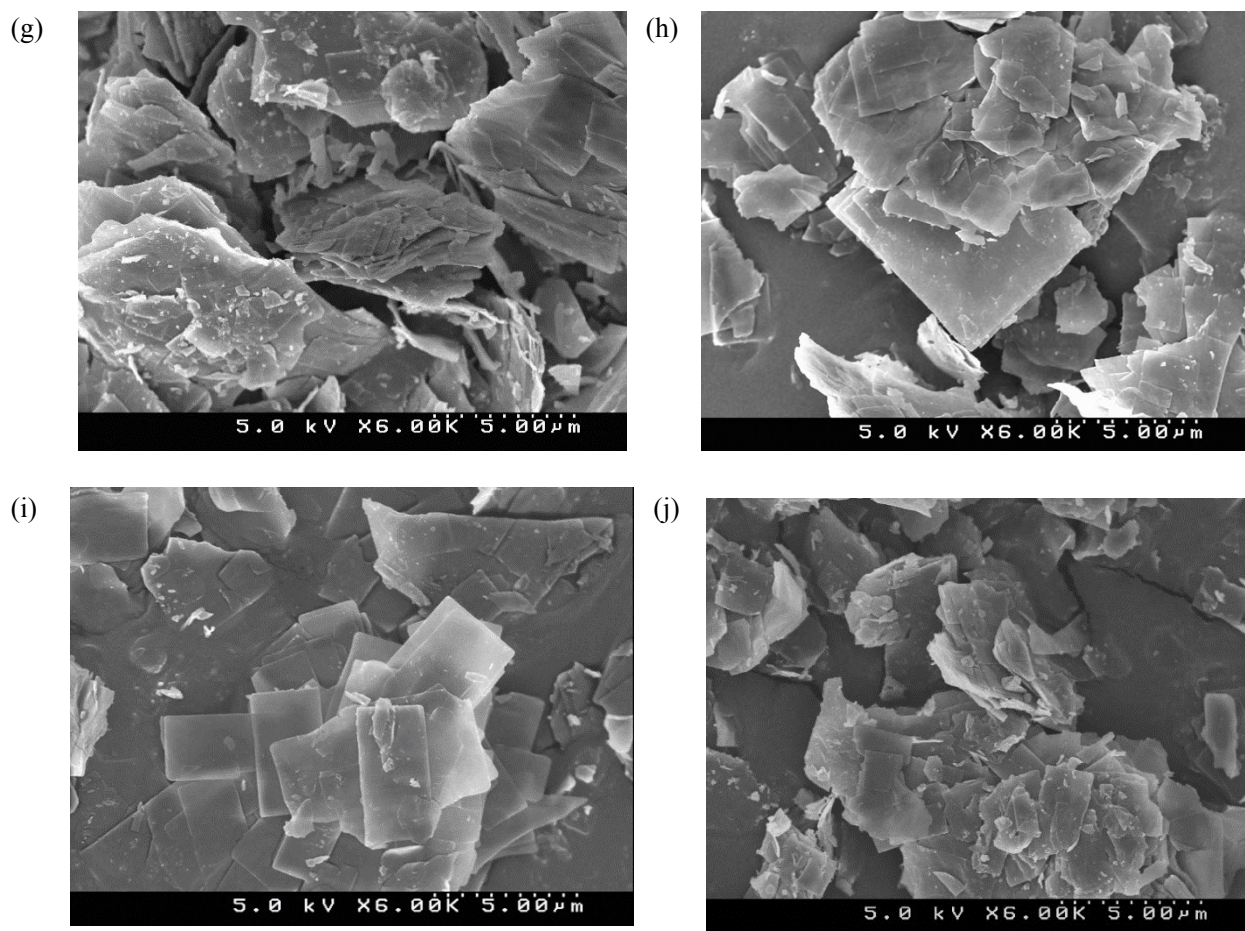


Figure S1. SEM images of (a) RUB-15, (b) H-RUB-15, (c) AcRUB-15, (d) NMF(rt)-Ac-RUB-15, (e) NMF(180rf)-Ac-RUB-15, (f) NMF(180rf)-H-RUB-15, (g) cal-Ac-RUB-15, (h) cal-NMF(rt)-Ac-RUB-15, (i) cal-NMF(180rf)-Ac-RUB-15, and (j) cal-NMF(180rf)-H-RUB-15.

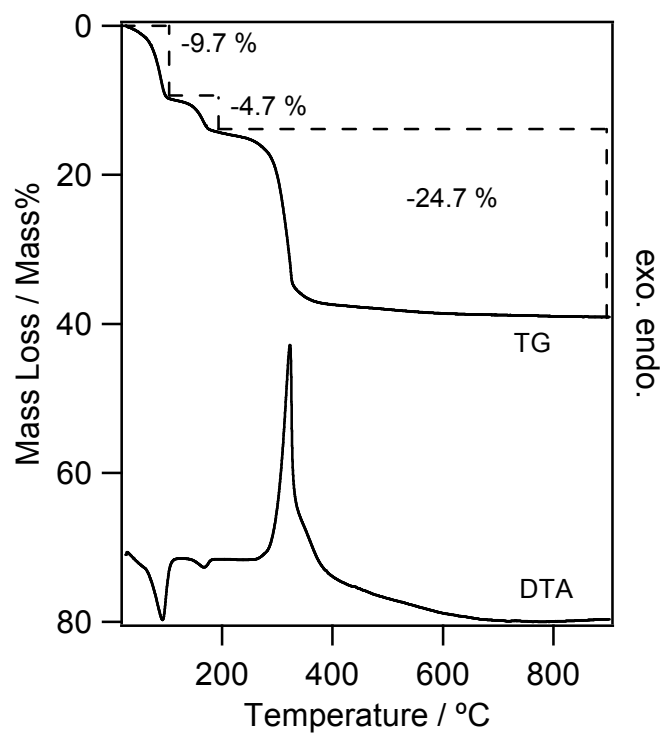


Figure S2. TG-DTA curves of RUB-15.

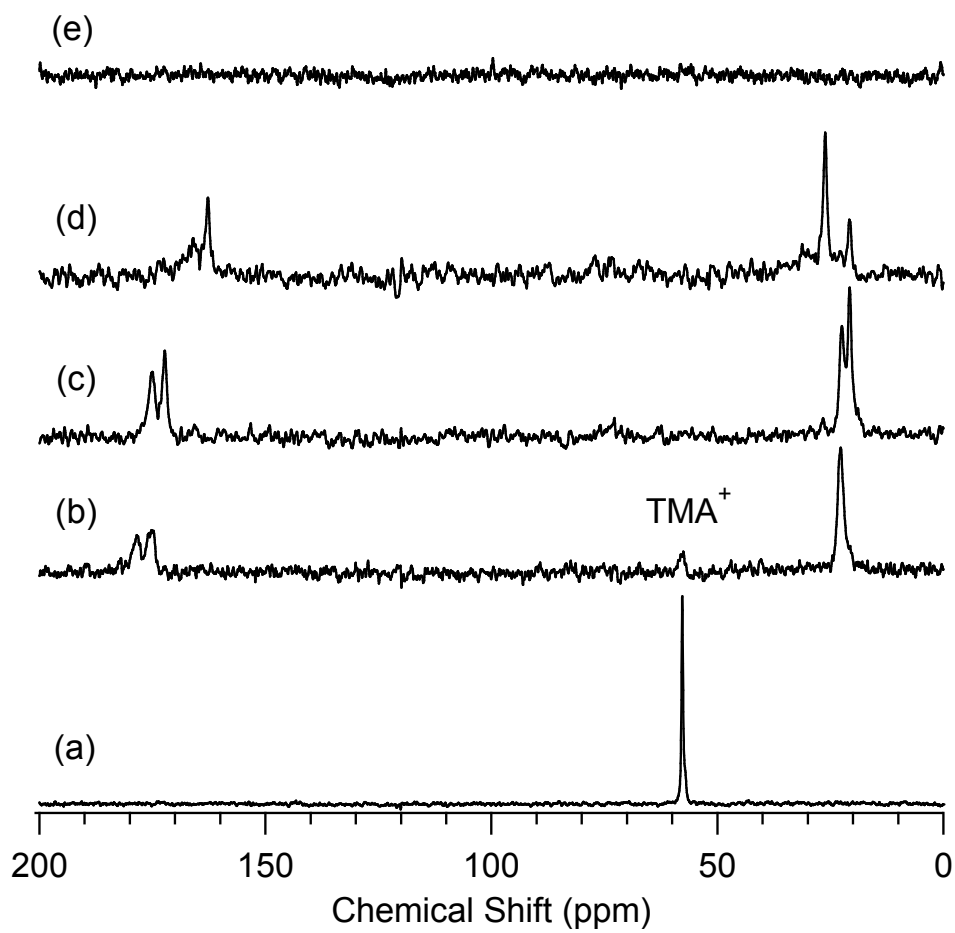
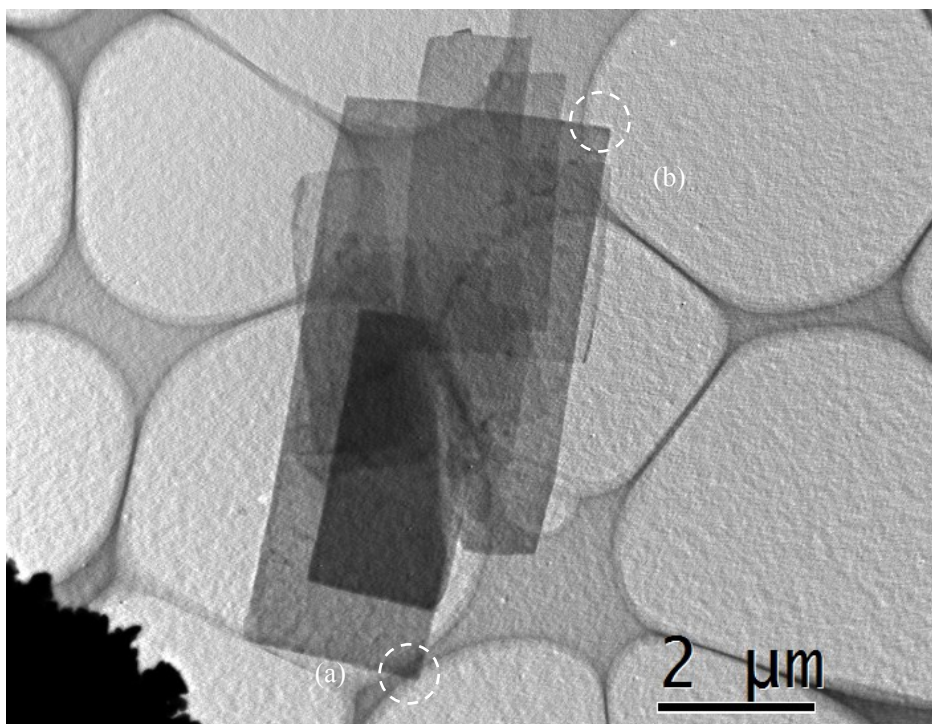


Figure S3.  $^{13}\text{C}$  CP/MAS NMR spectra of (a) RUB-15, (b) Ac-RUB-15, (c) NMF(rt)-Ac-RUB-15, (d) NMF(180rf)-Ac-RUB-15, and (e) cal-NMF(180rf)-Ac-RUB-15.



[110]

(a)

(b)

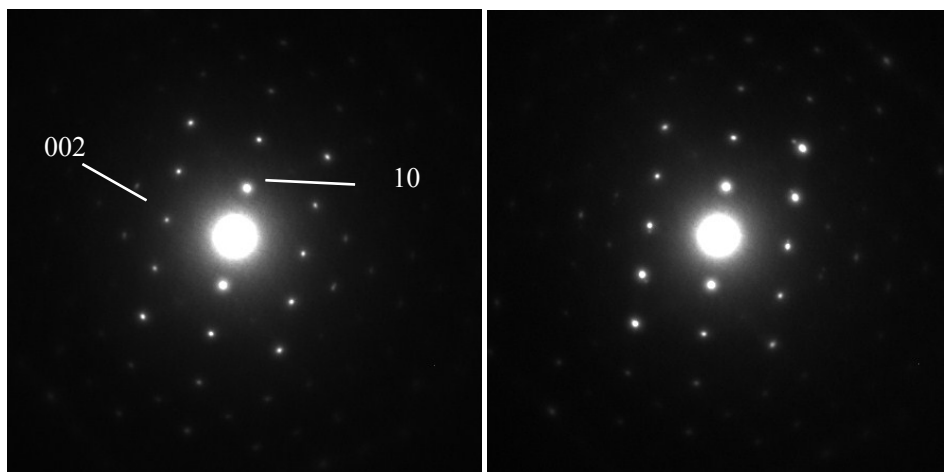
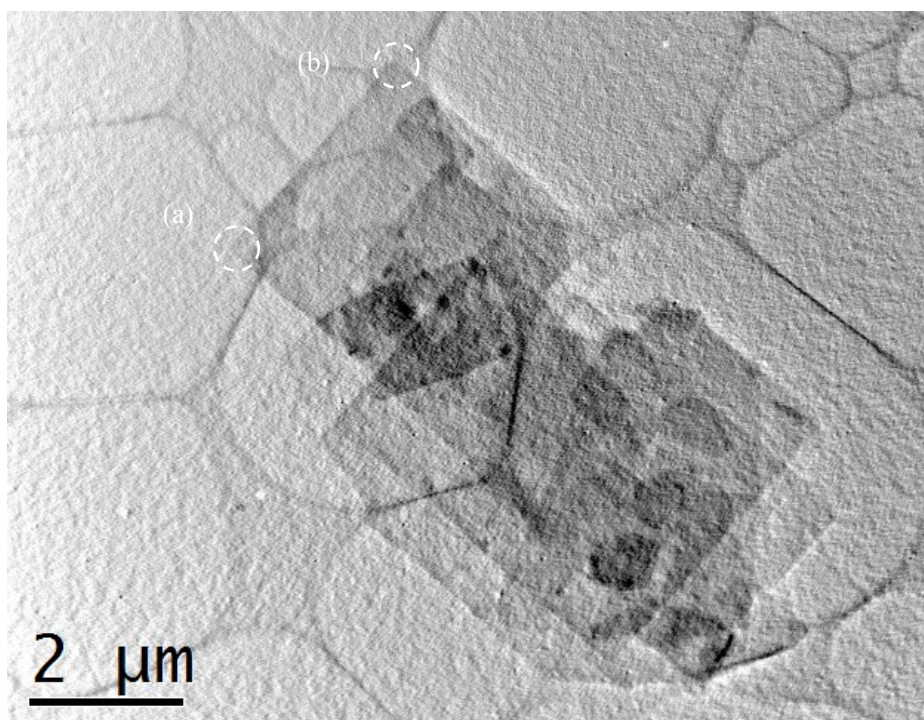
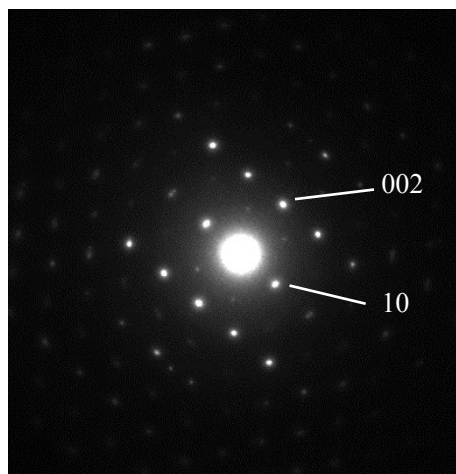


Figure S4. TEM image of NMF(180rf)-Ac-RUB-15 and the ED patterns of the selected areas of (a) and (b) indicated in the TEM image with circular white dots.



[110]

(a)



(b)

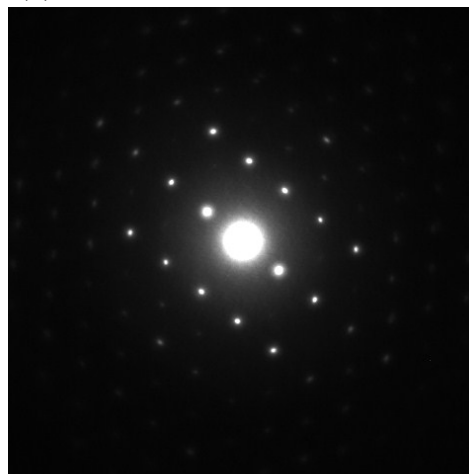


Figure S5. TEM image of cal-NMF(180rf)-Ac-RUB-15 and the ED patterns of the selected areas of (a) and (b) indicated in the TEM image with circular white dots.