

## Supporting Information

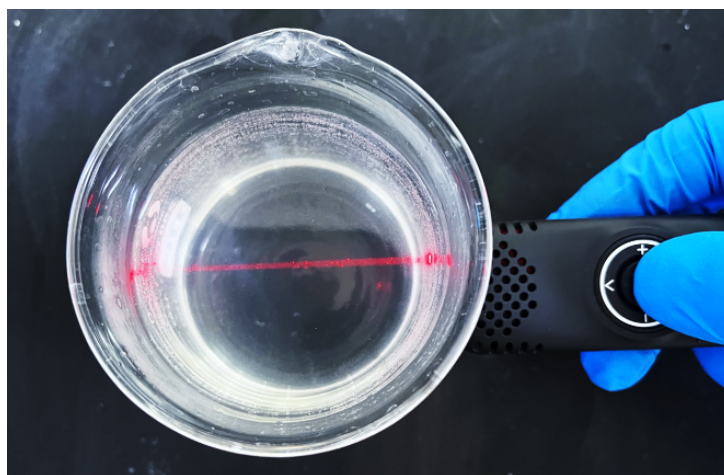
### Rapid synthesis of uniform silicalite-1 zeolite via a micro-liquid film reactor-assisted approach

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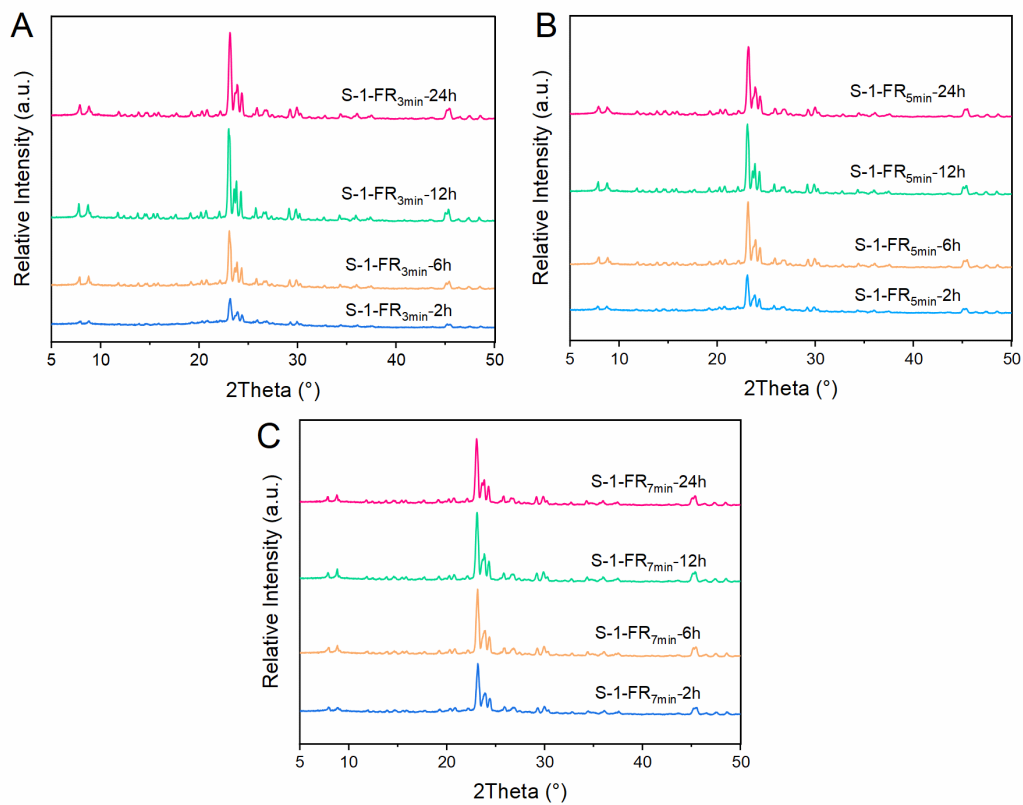
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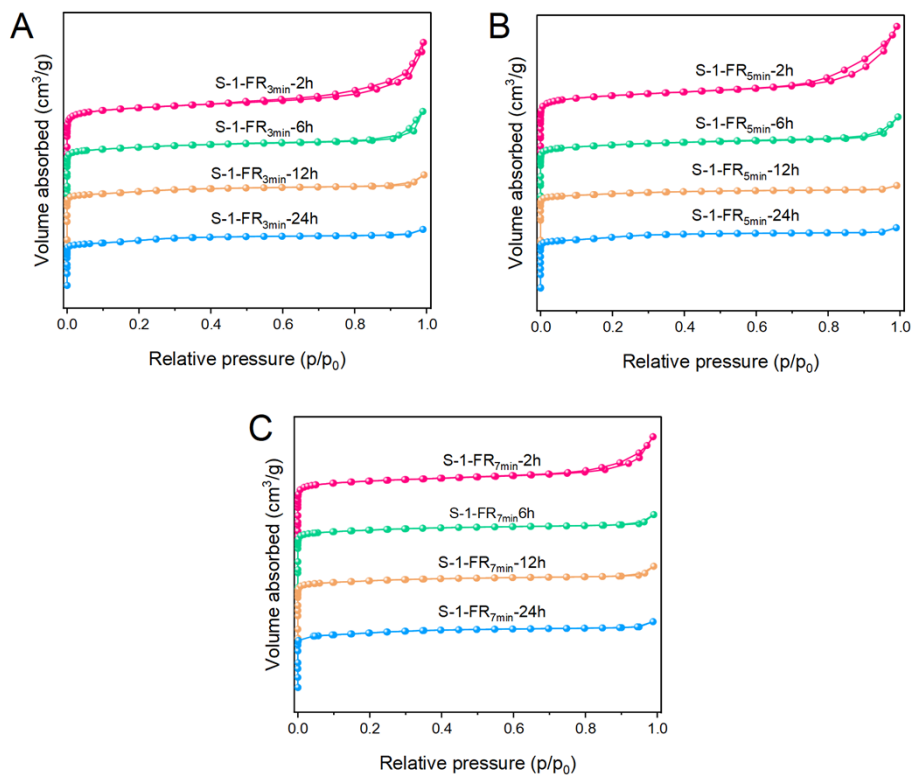
#### Figures and Tables



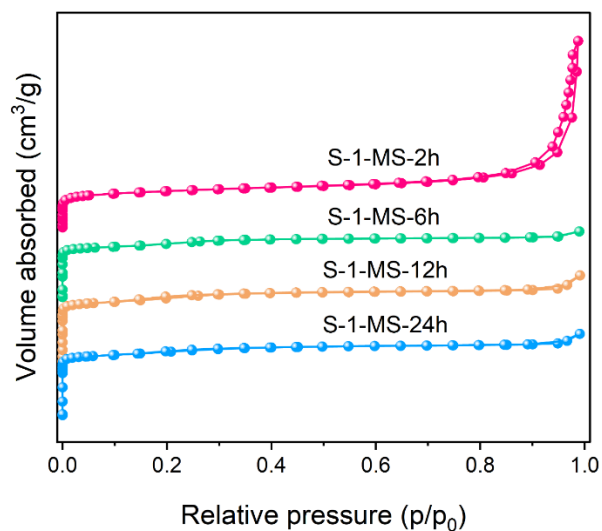
**Fig. S1** Photo for Tyndall effect of the zeolite precursor pretreated in MLF reactor for 10 min.



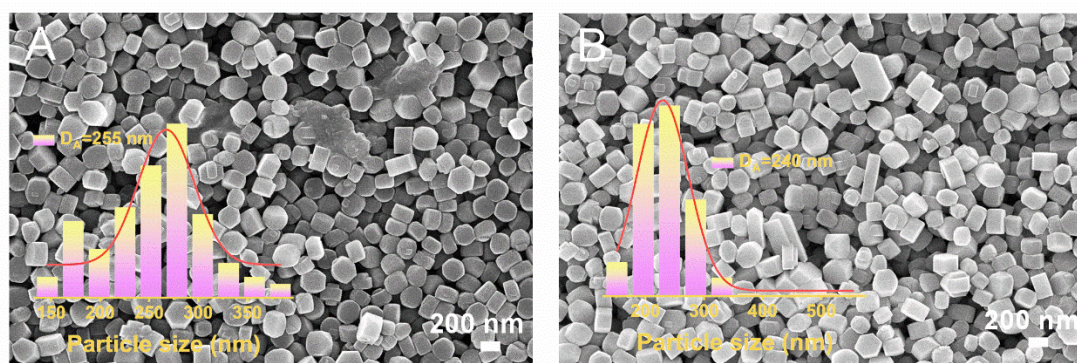
**Fig. S2** XRD patterns of samples derived from MLF reactor: (A) S-1-FR<sub>3min</sub>- $y$ , (B) S-1-FR<sub>5min</sub>- $y$ , (C) S-1-FR<sub>7min</sub>- $y$  ( $y=2, 6, 12, 24$  h).



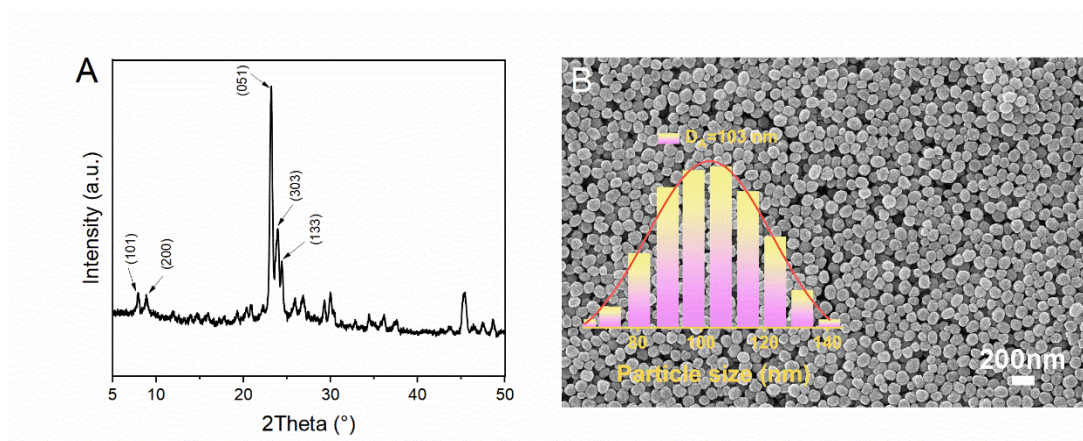
**Fig. S3** Nitrogen adsorption-desorption isotherms of S-1 zeolite samples derived from MLF reactor: (A) S-1-FR<sub>3min</sub>-y, (B) S-1-FR<sub>5min</sub>-y, (C) S-1-FR<sub>7min</sub>-y (y=2, 6, 12, 24 h).



**Fig. S4** Nitrogen adsorption-desorption isotherms of S-1-MS-y samples (y=2, 6, 12, 24 h).



**Fig. S5** SEM images of S-1 zeolite samples derived from mechanical stirring of 12 h (A) and 24 h (B) under hydrothermal conditions (170 °C, 2 h). The insets in A and B are crystal size distribution diagrams.



**Fig. S6** XRD pattern (A) and SEM image (B) of S-1 zeolite sample derived from MLF reactor for a mixing time of 10 min after static hydrothermal treatment at 90 °C. The inset in B is crystal size distribution diagram.

**Table S1.** Properties of the various S-1 zeolite samples.

Samples	$S_{\text{BET}}^{\text{a}}$ ( $\text{m}^2/\text{g}$ )	$S_{\text{micro}}^{\text{a}}$ ( $\text{m}^2/\text{g}$ )	$V_{\text{total}}^{\text{b}}$ ( $\text{cm}^3/\text{g}$ )	$V_{\text{micro}}^{\text{c}}$ ( $\text{cm}^3/\text{g}$ )
S-1-FR <sub>3min</sub> -2h	424	352	0.41	0.16
S-1-FR <sub>3min</sub> -6h	364	337	0.28	0.16
S-1-FR <sub>3min</sub> -12h	370	362	0.22	0.17
S-1-FR <sub>3min</sub> -24h	373	359	0.19	0.16
S-1-FR <sub>5min</sub> -2h	433	359	0.43	0.16
S-1-FR <sub>5min</sub> -6h	401	357	0.27	0.16
S-1-FR <sub>5min</sub> -12h	388	374	0.19	0.17
S-1-FR <sub>5min</sub> -24h	400	394	0.21	0.18
S-1-FR <sub>7min</sub> -2h	435	394	0.32	0.17
S-1-FR <sub>7min</sub> -6h	436	414	0.23	0.18
S-1-FR <sub>7min</sub> -12h	407	391	0.23	0.18
S-1-FR <sub>7min</sub> -24h	424	415	0.21	0.18

<sup>a</sup> Determined by BET method. <sup>b</sup> Determined by Volume adsorbed at  $p/p_0 = 0.995$ . <sup>c</sup> Determined by t-plot method.