

Supporting Information

Synthesis and Catalytic Activity of Amino-functionalized SBA-15 Materials with Controllable Channel Lengths and Amino Loadings

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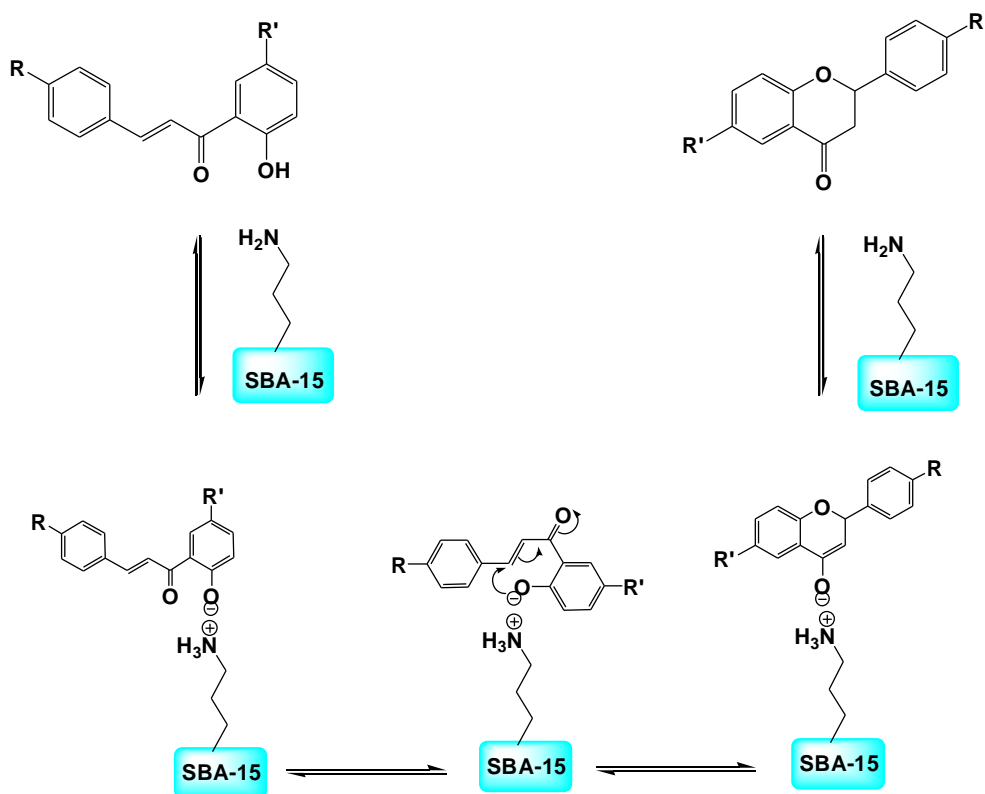
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Scheme S1. Possible mechanism for intramolecular Michael Addition of 2'-hydroxychalcone to flavanone over amino-functionalized SBA-15 mesoporous materials.

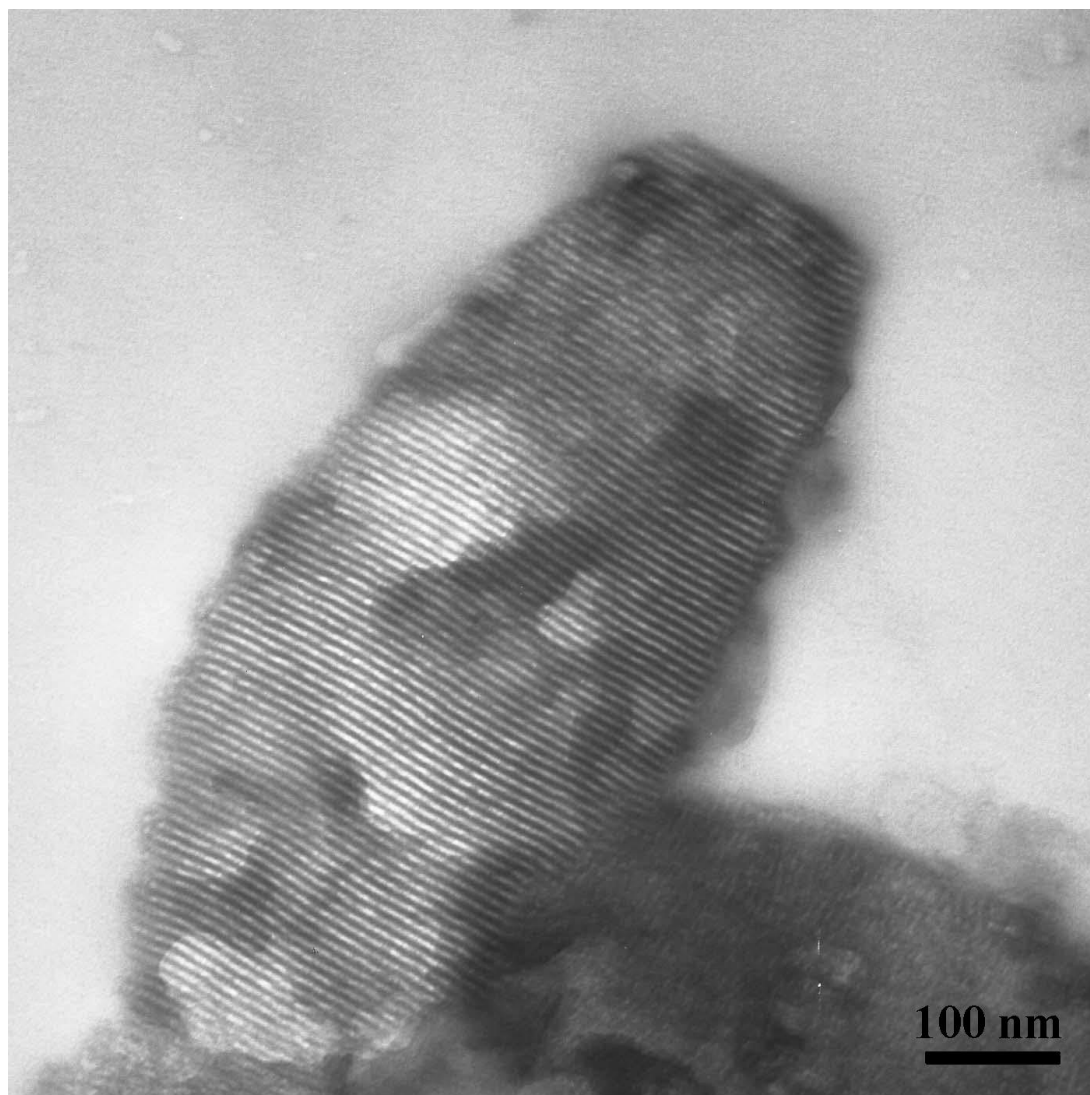


Fig. S1. TEM photos of platelet 10NH₂-SBA-15 material, where the NaCl/TEOS and Zr/TEOS molar ratios are 2 and 0.05, respectively.

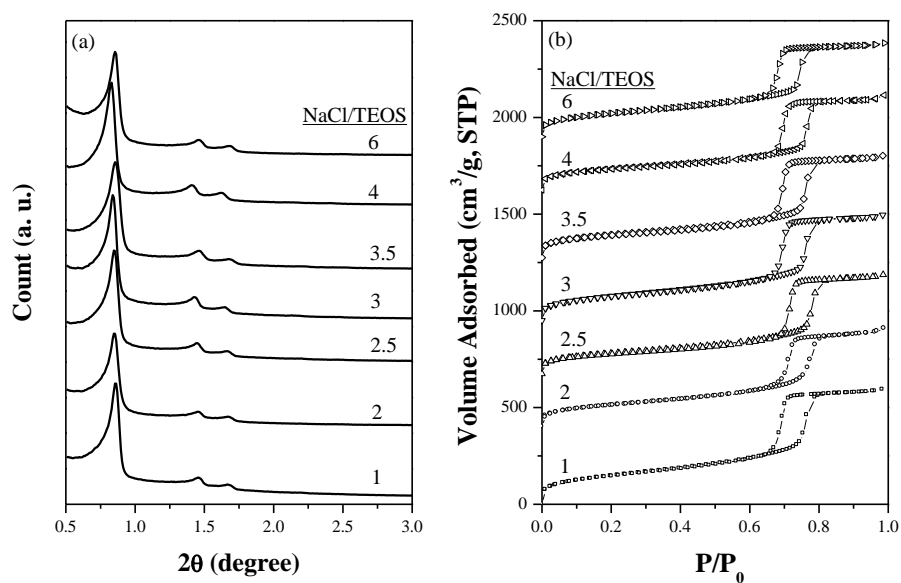


Fig. S2. (a) Small-angle XRD patterns and (b) N_2 adsorption-desorption isotherms of TMAOH-treated $10NH_2$ -SBA-15 materials, where the Zr/TEOS molar ratio is kept in 0.05, and the NaCl/TEOS molar ratios are varied in 1-6.

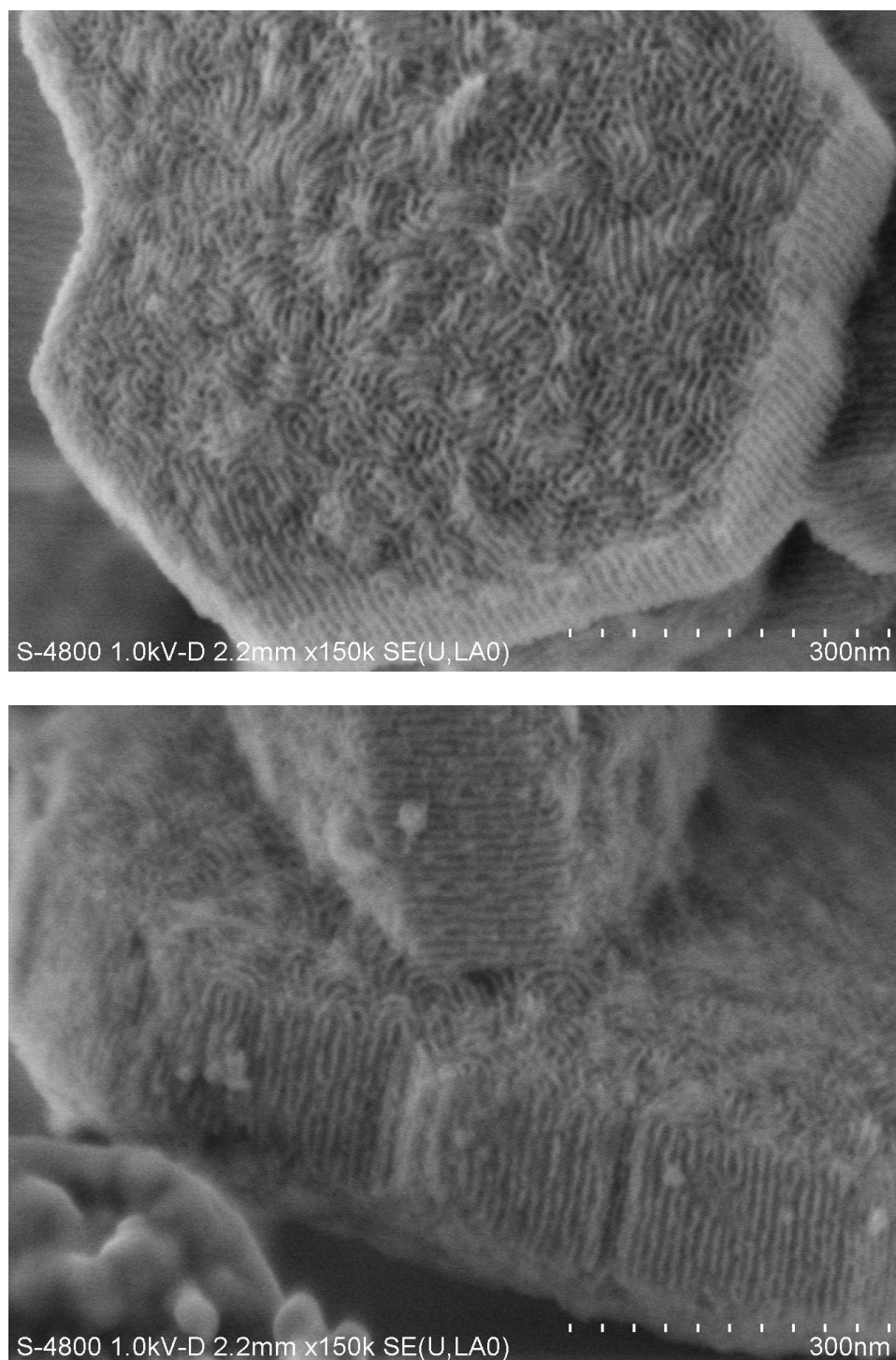


Fig. S3. HRSEM photos of TMAOH-treated platelet 10NH₂-SBA-15 material, where the NaCl/TEOS and Zr/TEOS molar ratios are 2 and 0.05, respectively.

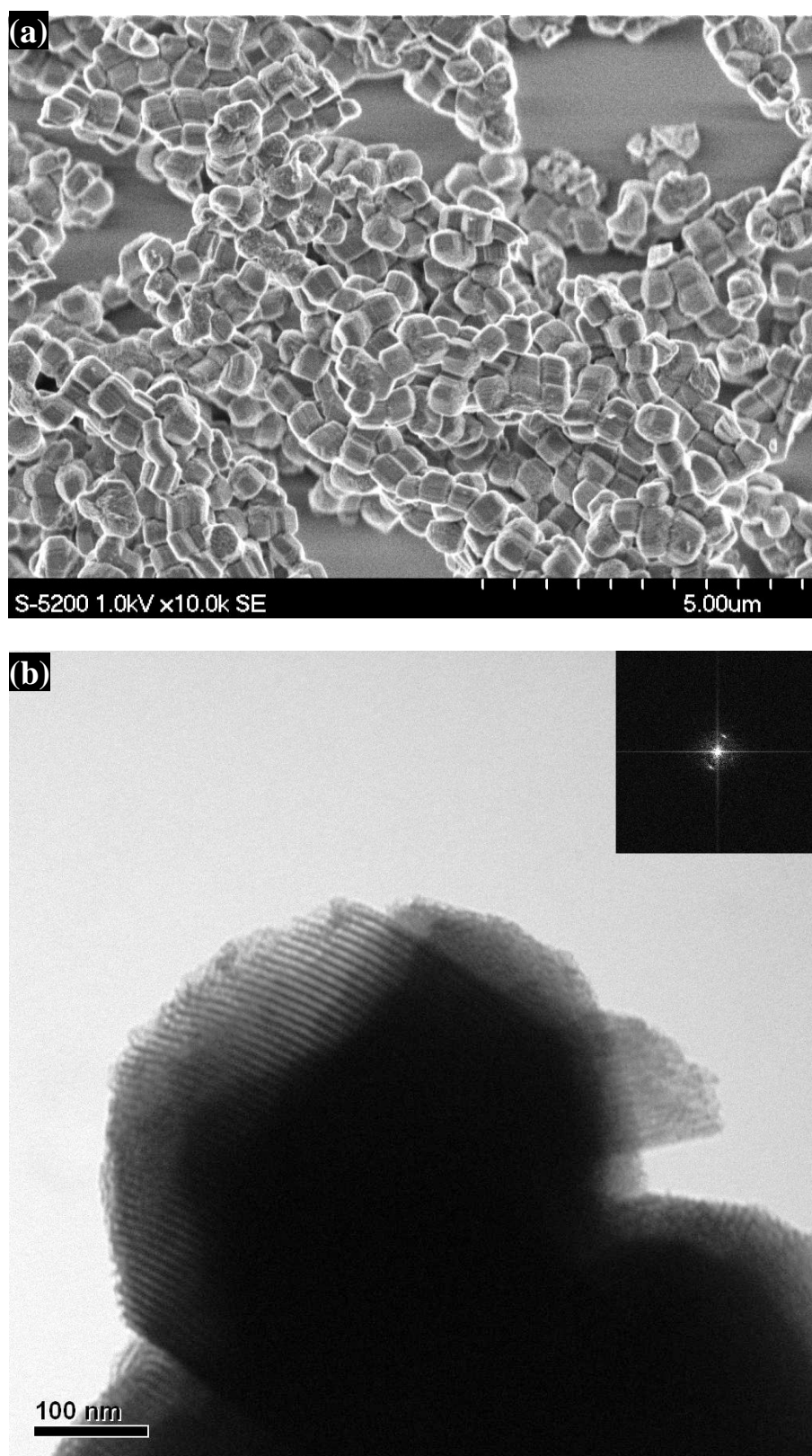


Fig. S4. SEM and TEM photos of TMAOH-treated rod-like 10NH₂-SBA-15 material, where the NaCl/TEOS and Zr/TEOS molar ratios are 3.5 and 0.05, respectively.

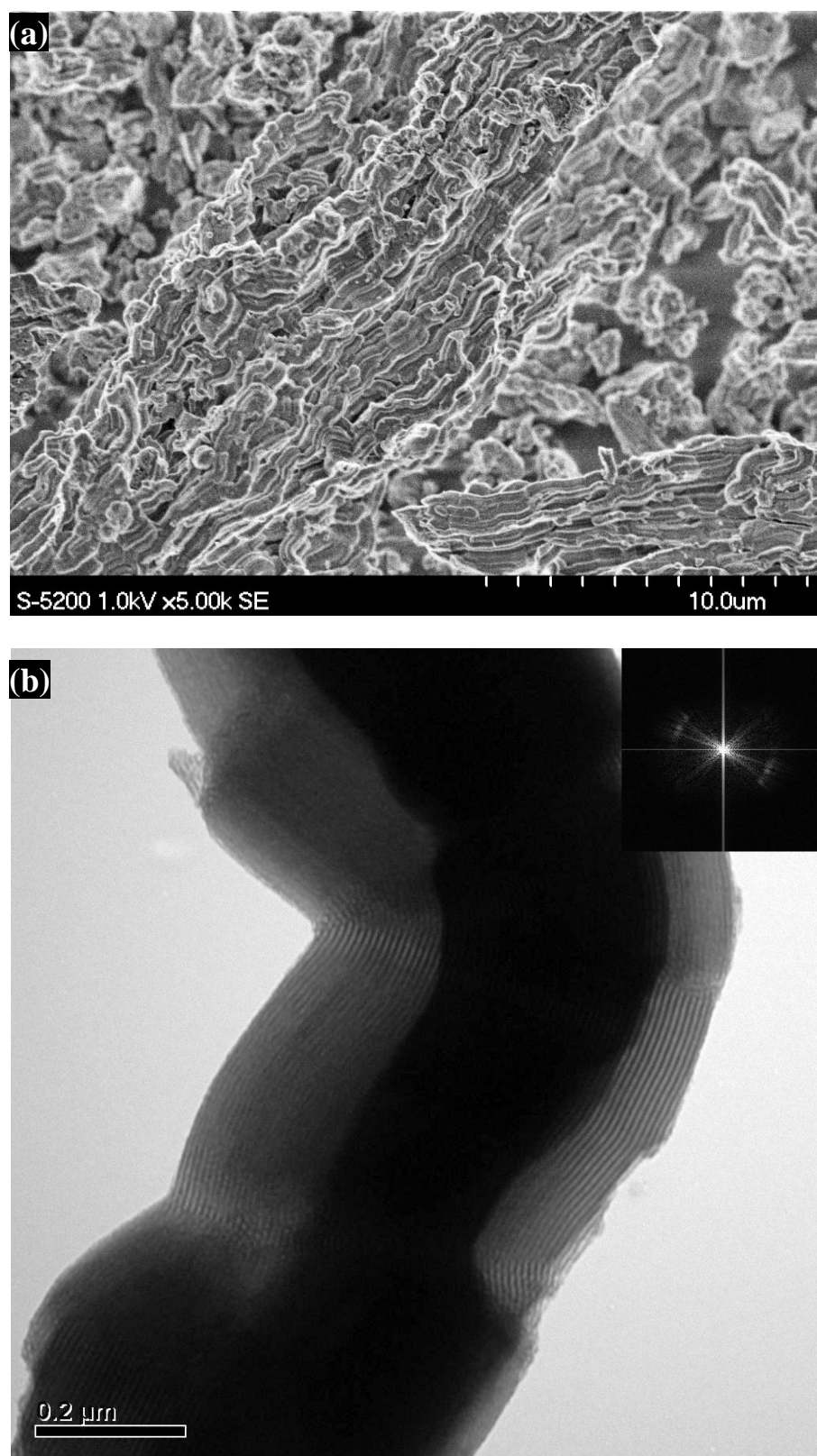


Fig. S5. SEM and TEM photos of TMAOH-treated fiber-like 10NH₂-SBA-15 material, where the NaCl/TEOS and Zr/TEOS molar ratios are 6 and 0.05, respectively.

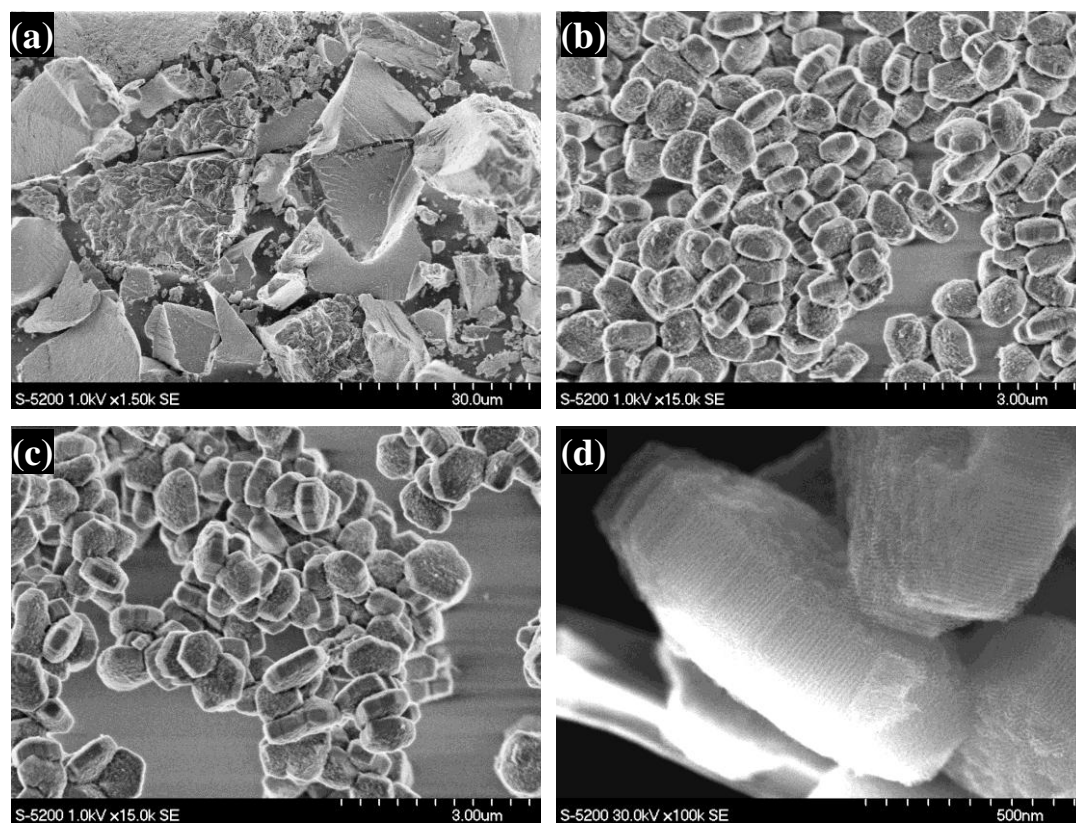


Fig. S6. SEM photos of 10NH₂-SBA-15 materials prepared with no TEOS prehydrolysis (a) and various TEOS prehydrolysis periods of (b) 0.5, (c) 1, and (d) 2, where the NaCl/TEOS and Zr/TEOS molar ratios are 6 and 0.05, respectively.

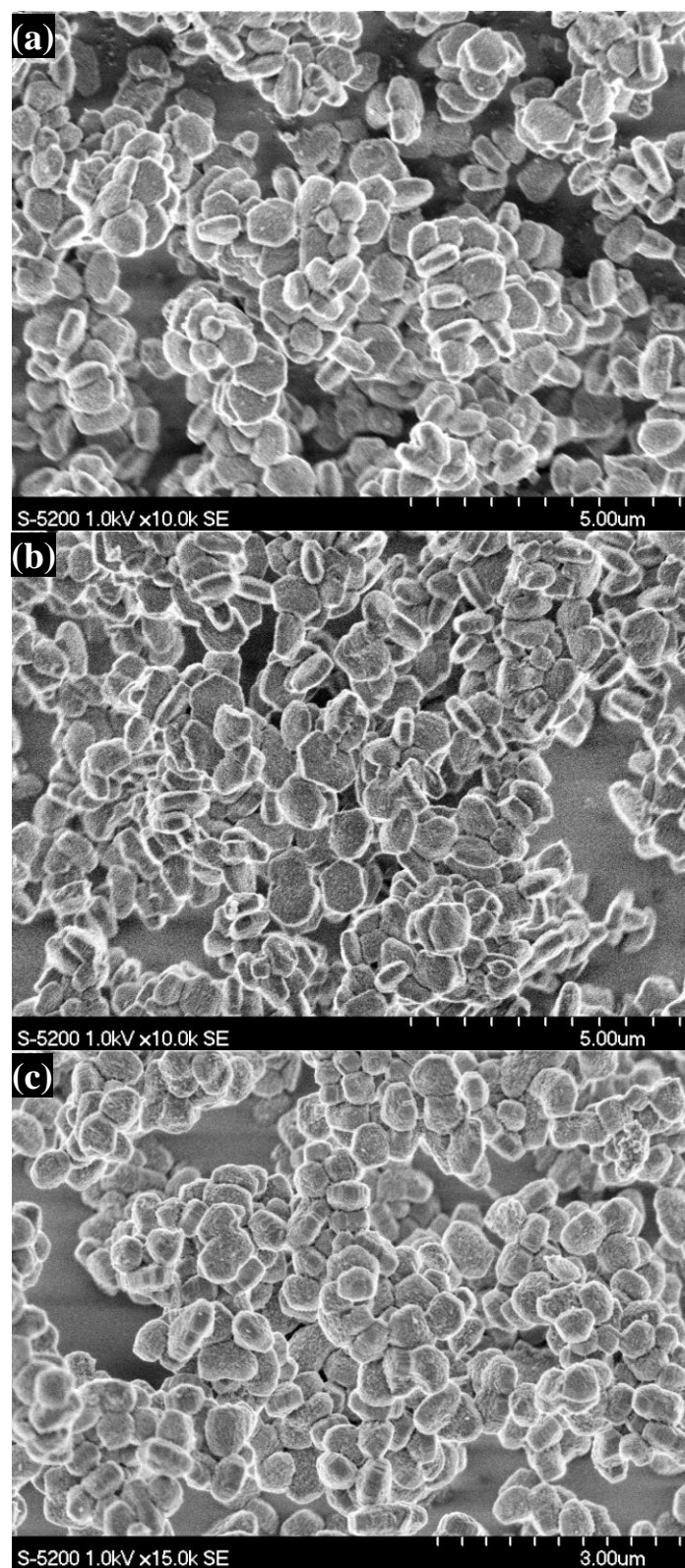


Fig. S7. SEM photos of platelet materials: (a) 5NH₂-SBA-15, (b) 20NH₂-SBA-15, and (c) 30NH₂-SBA-15.

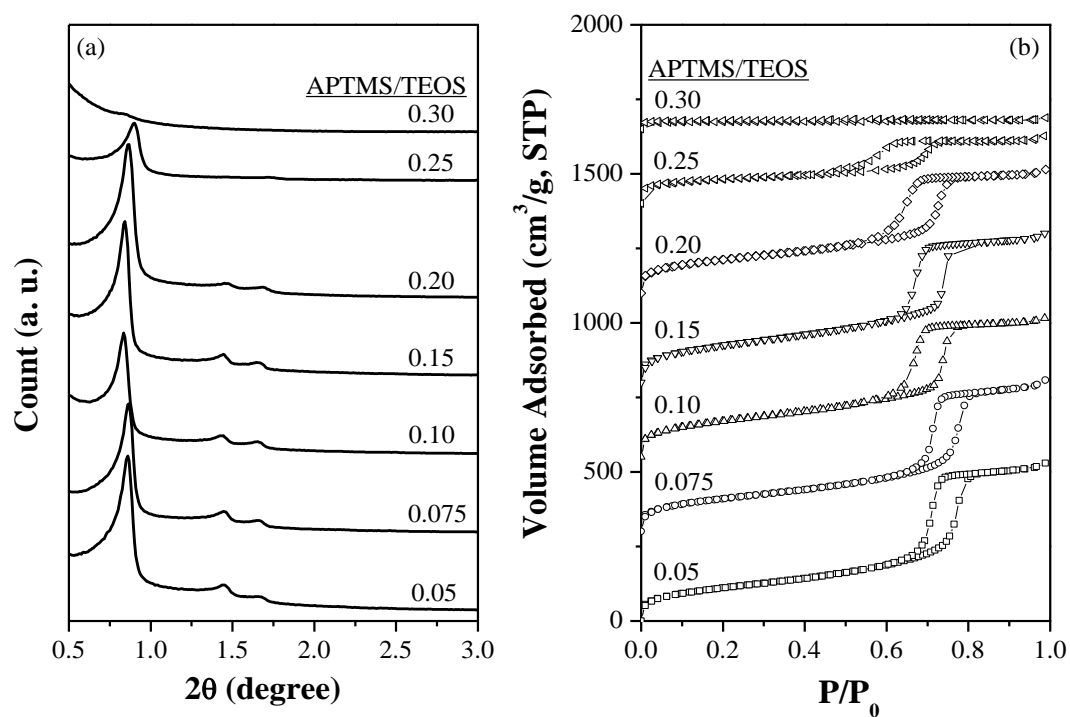


Fig. S8. (a) Small-angle XRD patterns and (b) N_2 adsorption-desorption isotherms of TMAOH-treated platelet NH_2 -SBA-15 materials various APTMS/TEOS molar ratios.

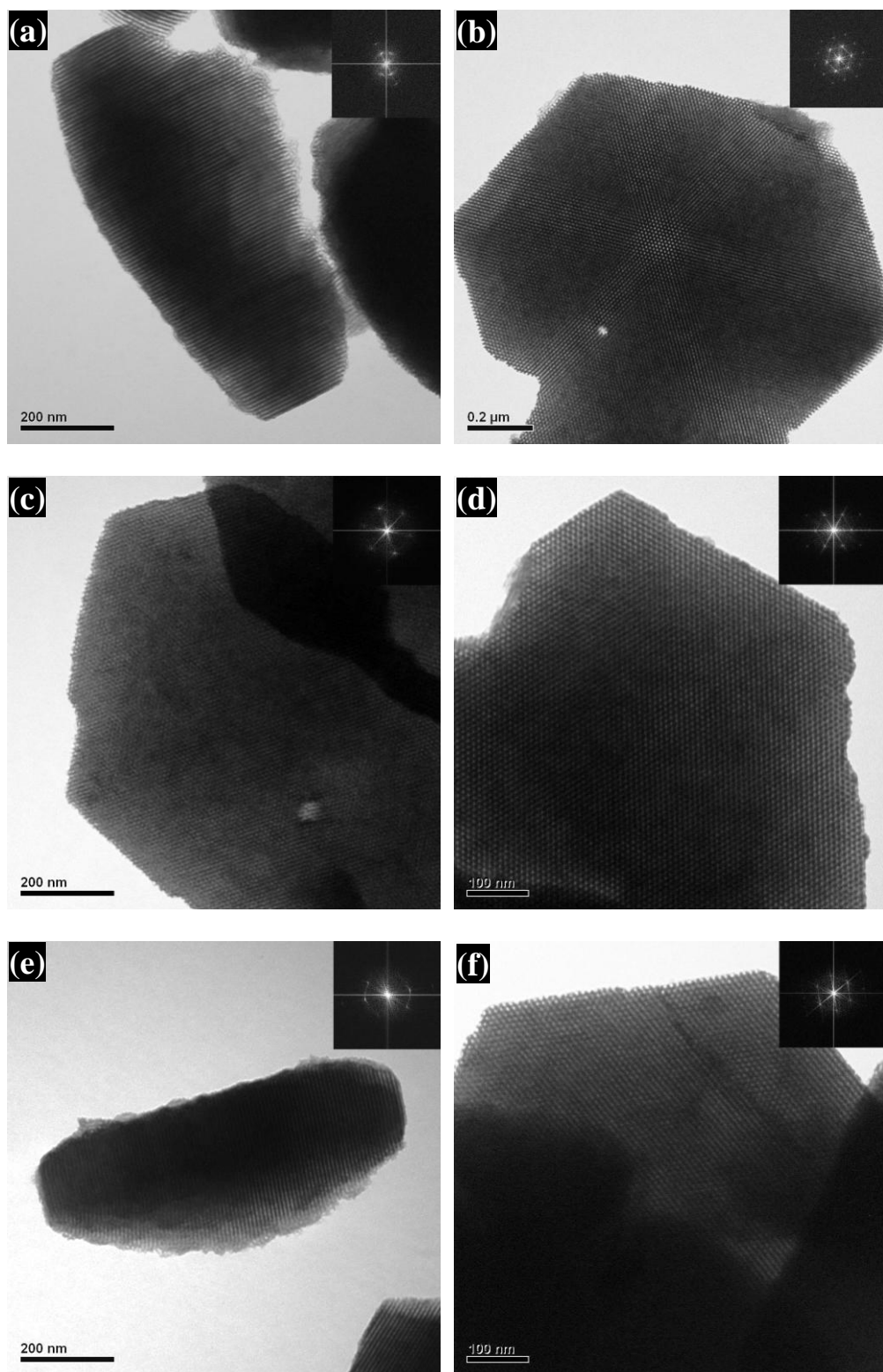


Fig. S9. TEM photos of TMAOH-treated platelet $\text{NH}_2\text{-SBA-15}$ materials prepared with APTMS/TEOS molar ratios of (a,b) 5, (c) 10, (d) 20, and (e) 25, where the NaCl/TEOS molar ratio is kept in 2.

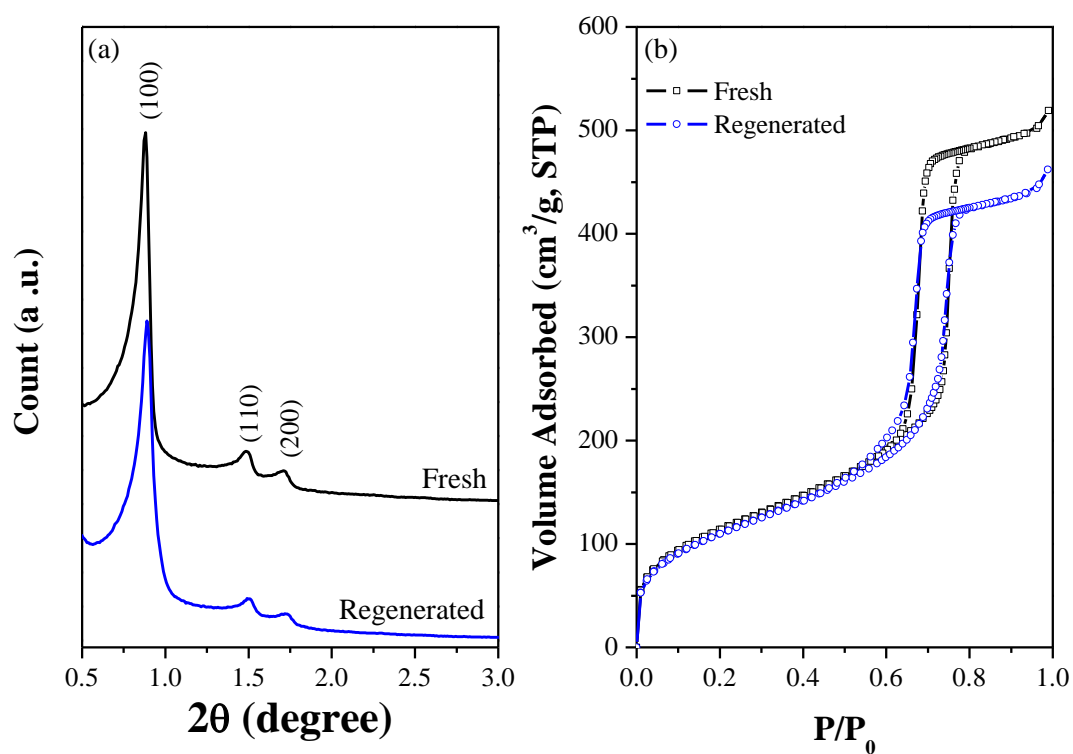


Fig. S10. Small-angle XRD pattern and N₂ adsorption-desorption isotherms isotherm of fresh and regenerated platelet 10NH₂-SBA-15 materials.

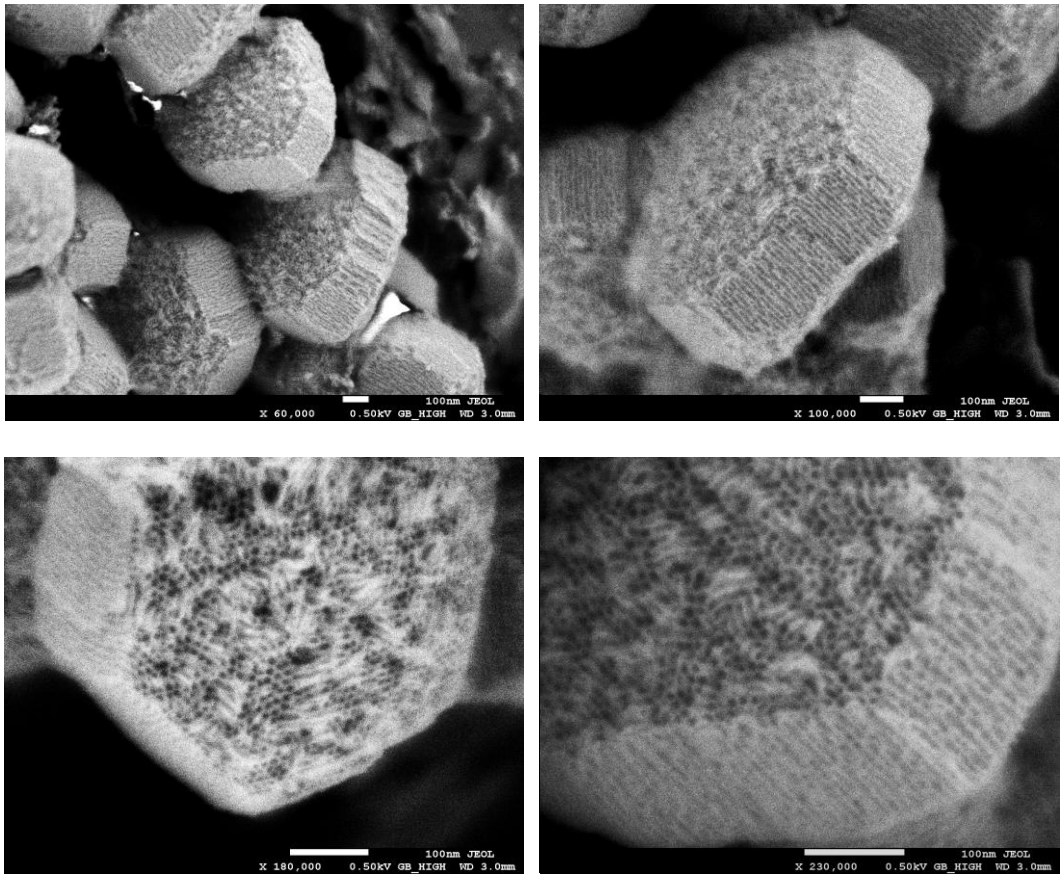


Fig. S11. HRSEM photos of regenerated platelet 10NH₂-SBA-15 material.

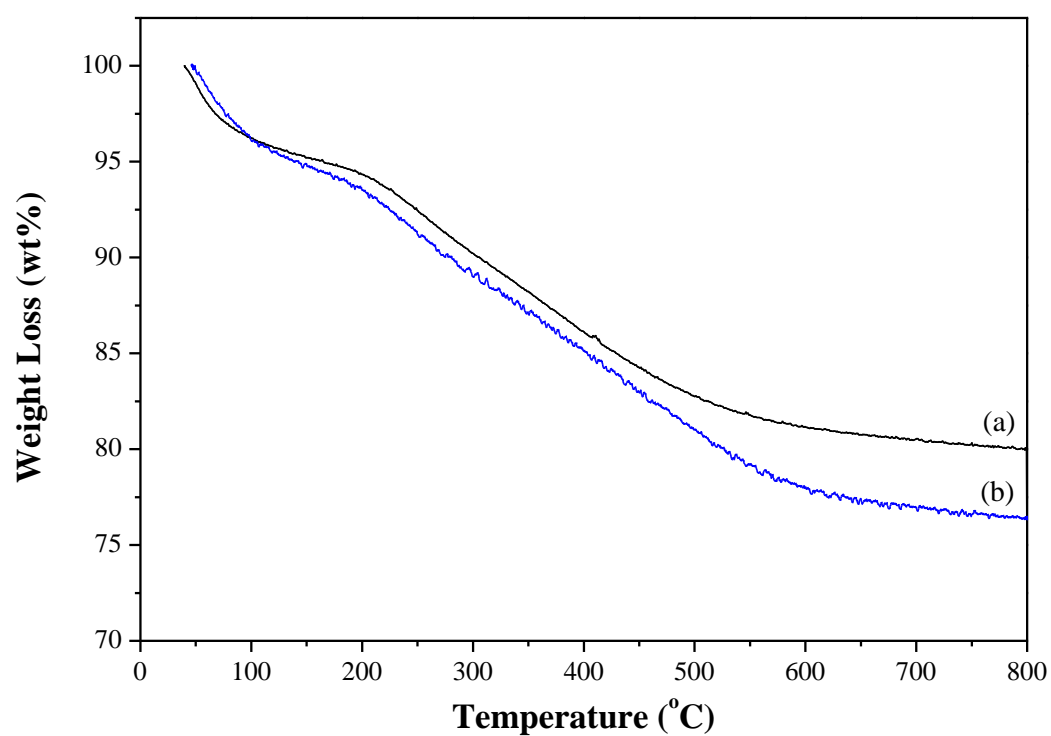


Fig. S12. TGA profiles of (a) fresh and (b) regenerated catalysts of platelet 10NH₂-SBA-15 materials.