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Supporting Information

Double-shelled hollow mesoporous silica nanosphere as acid-base bifunctional catalyst for cascade reactions

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Supporting Figures (S1-S5).

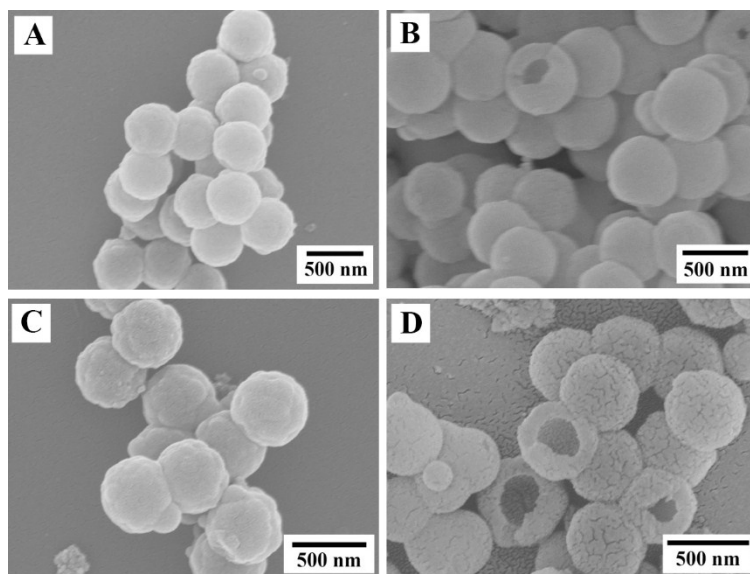


Fig. S1 SEM images of (A) HMS-Al-10, (B) HMS-Al@MS-NH₂-10, (C) HMS-Al-100 and (D) HMS-Al@MS-NH₂-100.

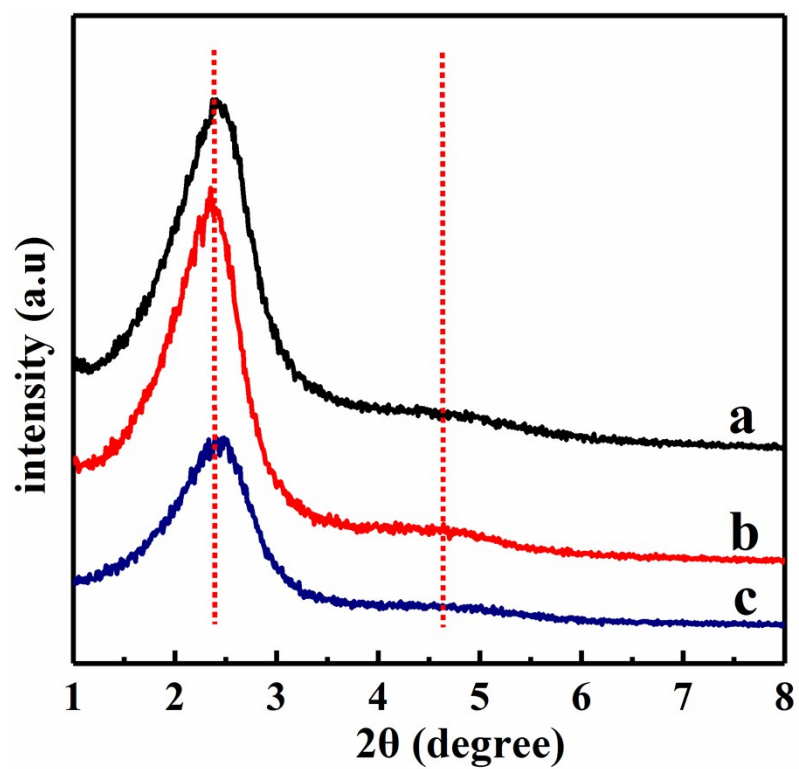


Figure S2 X-ray powder diffraction patterns of a) HMS-Al@MS-NH₂-10, b) HMS-Al@MS-NH₂-25 and c) HMS-Al@MS-NH₂-100.

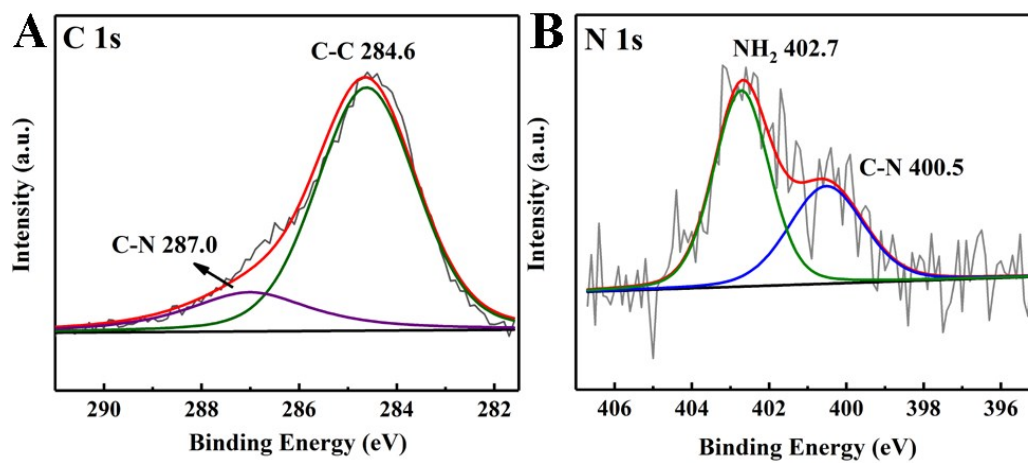


Figure S3 XPS spectra of the HMS-Al@MS-NH₂-25 composite: (A) C 1s and (B) N 1s.

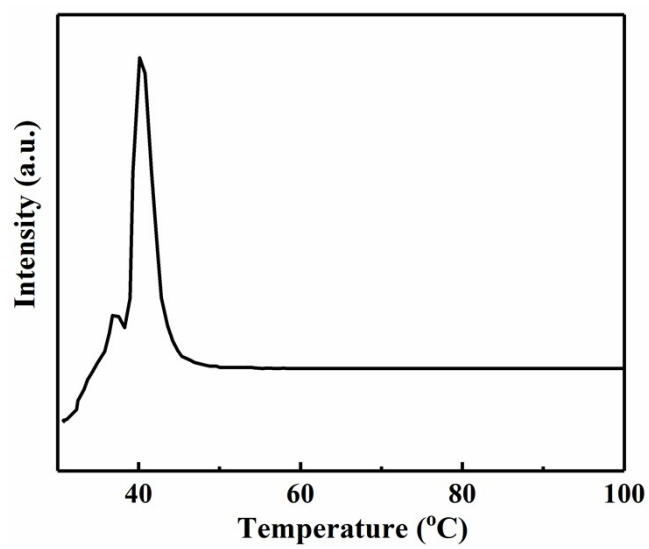


Figure S4 CO₂-TPD spectrum of HMS-Al@MS-NH₂-25.

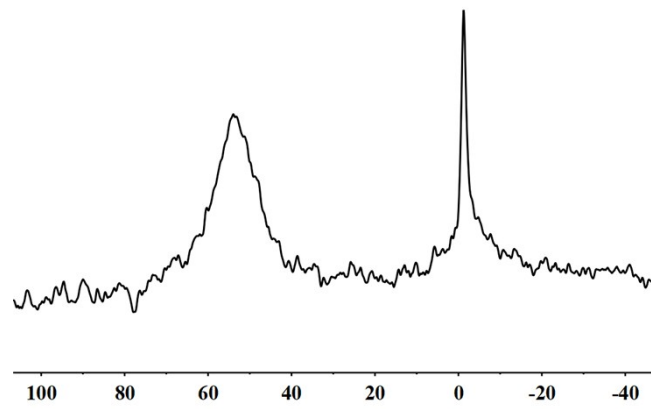


Figure S5 ^{27}Al MAS NMR spectrum of HMS-Al@MS-NH₂-25.