

Supplementary Materials

Effect of the Ni-to-CaO Ratio on Integrated CO₂ Capture and Direct Methanation

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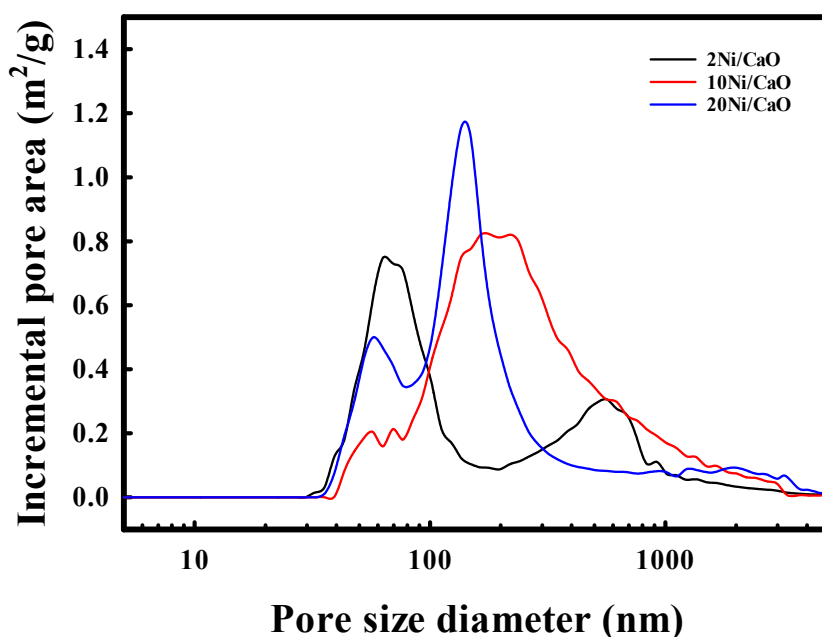


Figure S1. Pore size distribution from Hg porosimetry curves of 2Ni/CaO, 10Ni/CaO, and 20Ni/CaO catal-sorbents.

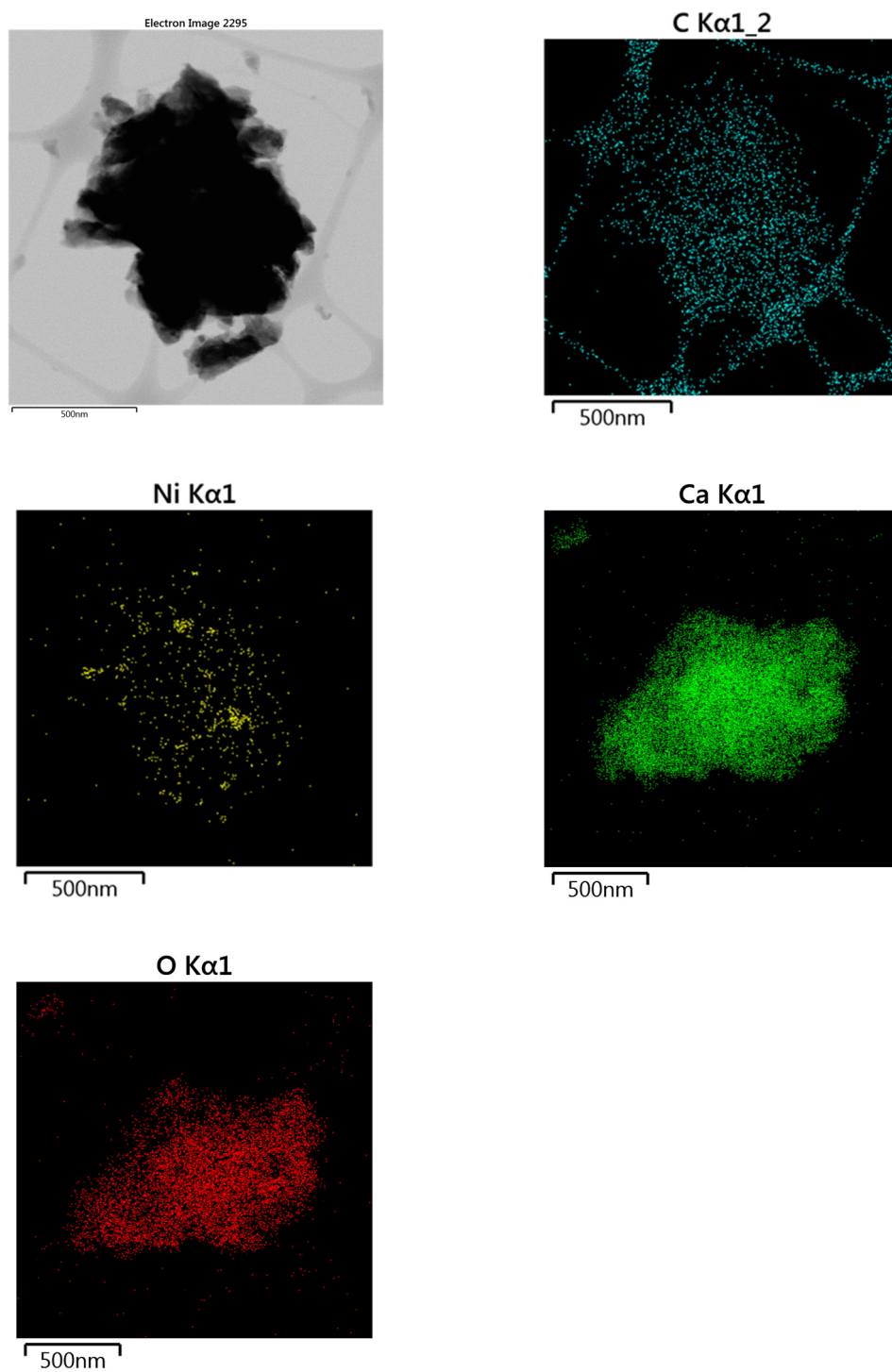


Figure S2. TEM-EDS mapping of the 2Ni/CaO catal-sorbent.

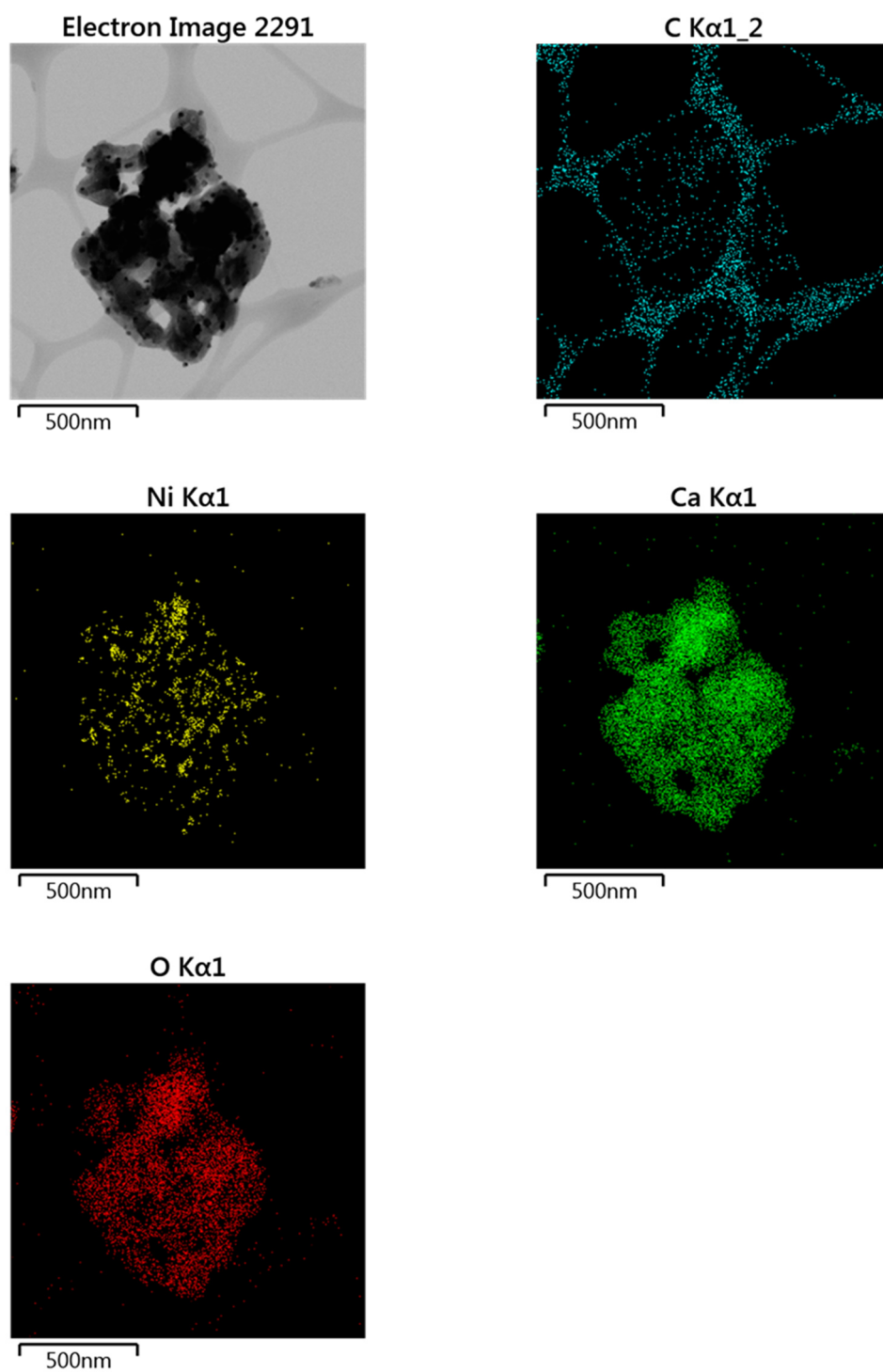


Figure S3. TEM-EDS mapping of the 10Ni/CaO catal-sorbent.

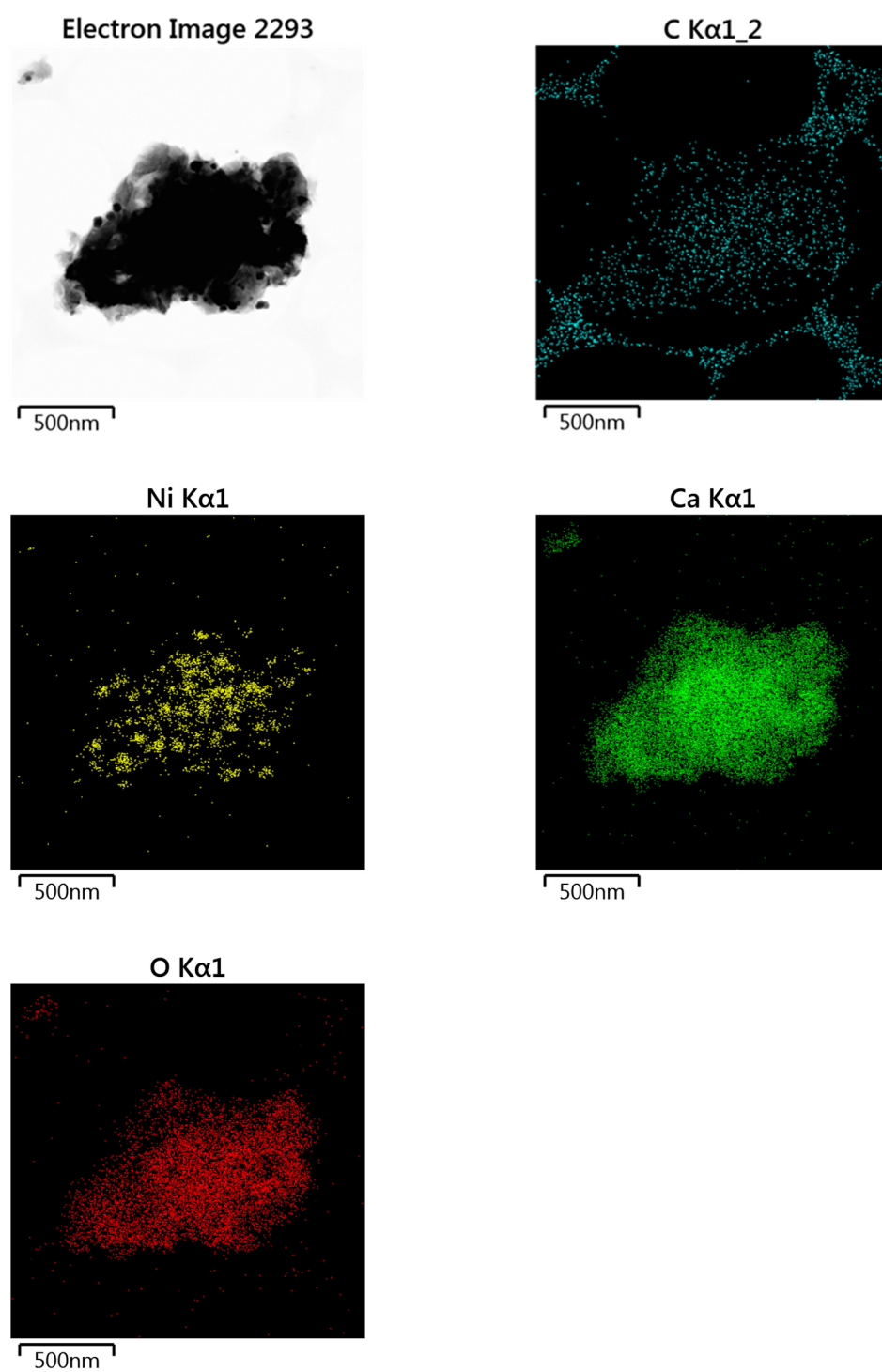


Figure S4. TEM-EDS mapping of the 20Ni/CaO catal-sorbent.

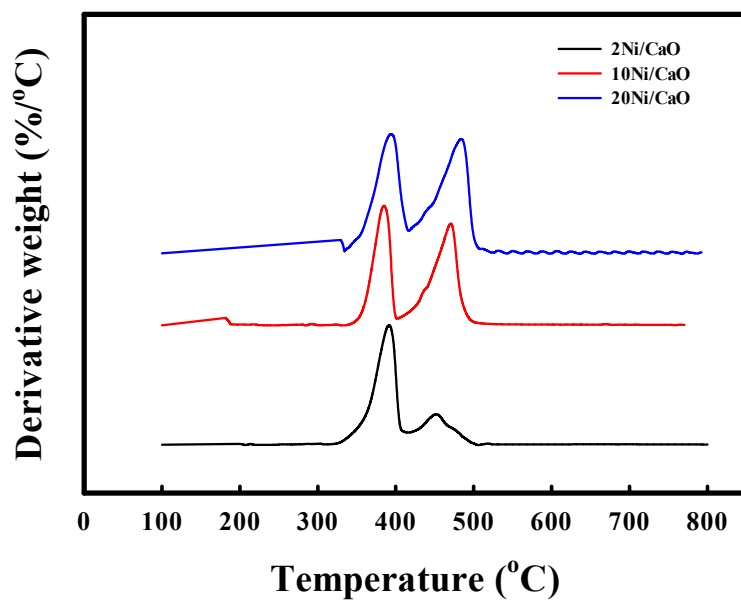


Figure S5. H₂-TPR profiles of the 2Ni/CaO, 10Ni/CaO, and 20Ni/CaO catal-sorbents under pure H₂ from 100 °C to 800 °C.

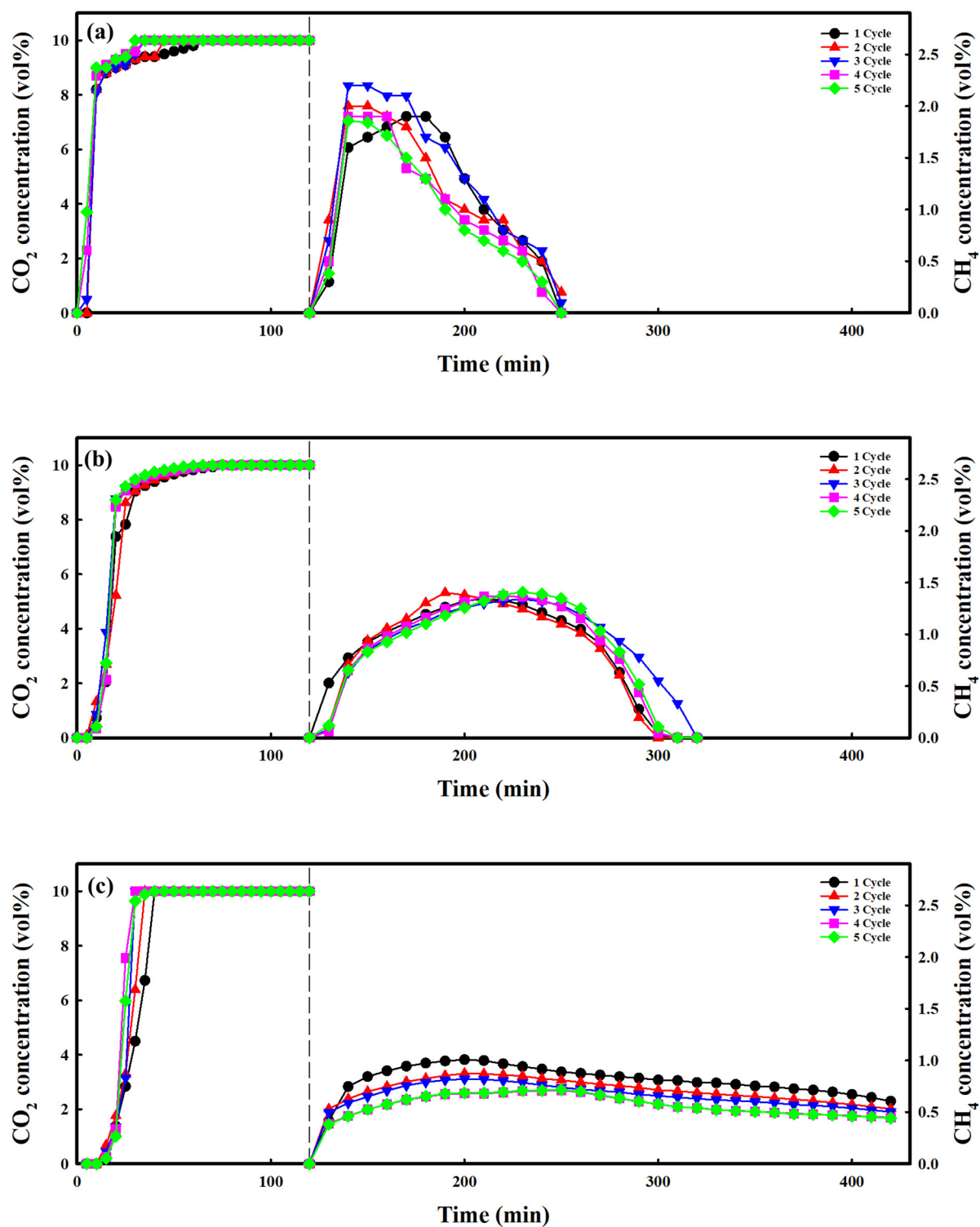


Figure S6. Breakthrough curves of the (a) 2Ni/CaO, (b) 10Ni/CaO, and (c) 20Ni/CaO catal-sorbents over five consecutive cycles at 500 °C.