

Supplementary Information for:

**METAL-CATALYZED GRAPHITIC NANOSTRUCTURES AS SORBENTS FOR
VAPOR-PHASE AMMONIA**

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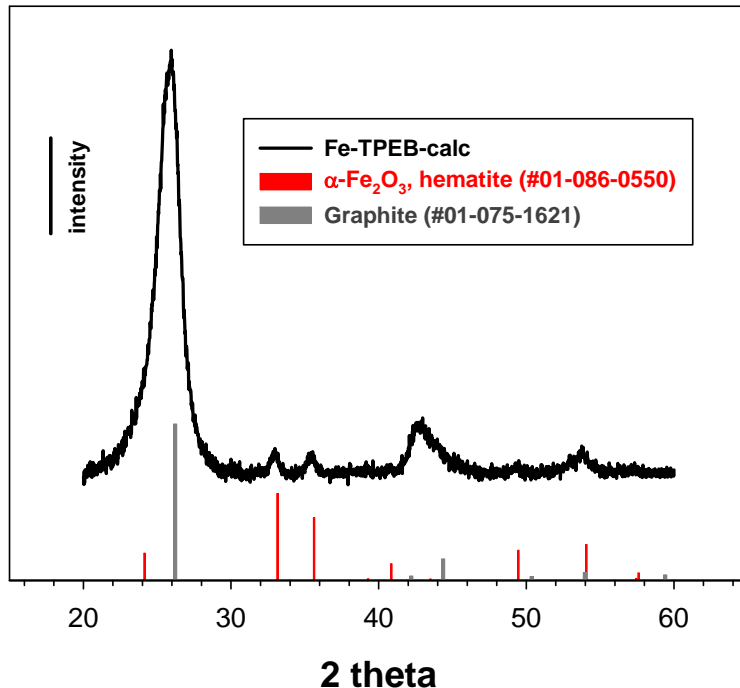


Figure S1. Powder X-ray diffraction for the Fe-TPEB-calc material, compared to standards for graphite and α -Fe₂O₃.

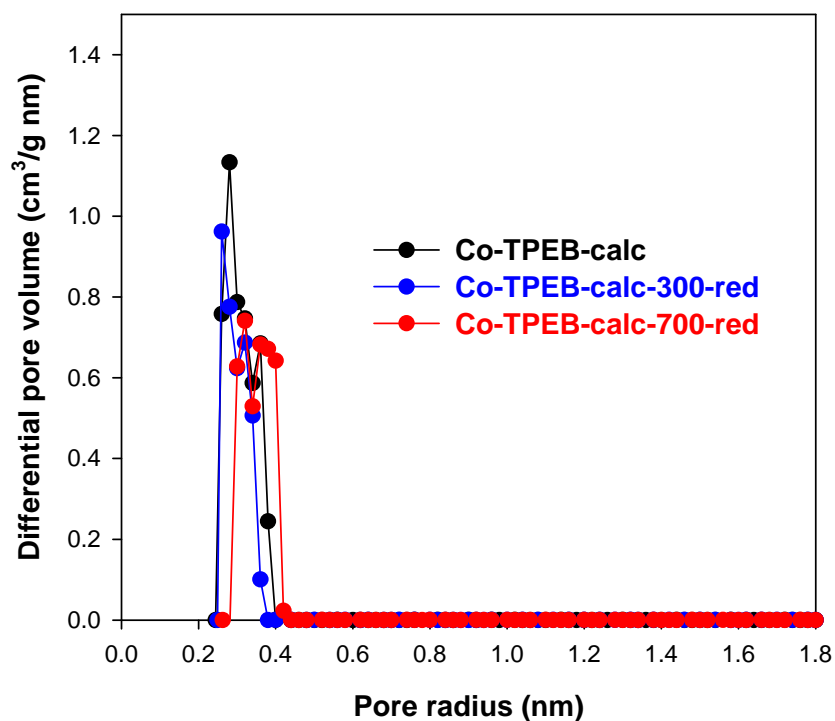


Figure S2. Pore-size distribution plots for Co-TPEB series, using the MP method for data fitting to model the micropore structure.

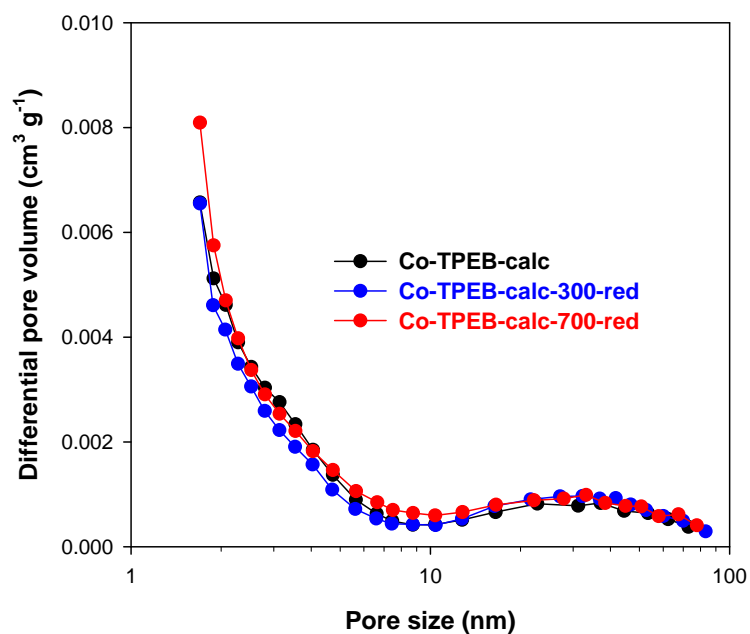


Figure S3. Pore-size distribution plots for Co-TPEB-based materials, derived from N₂-sorption isotherms using a DFT fitting with a slit geometry.

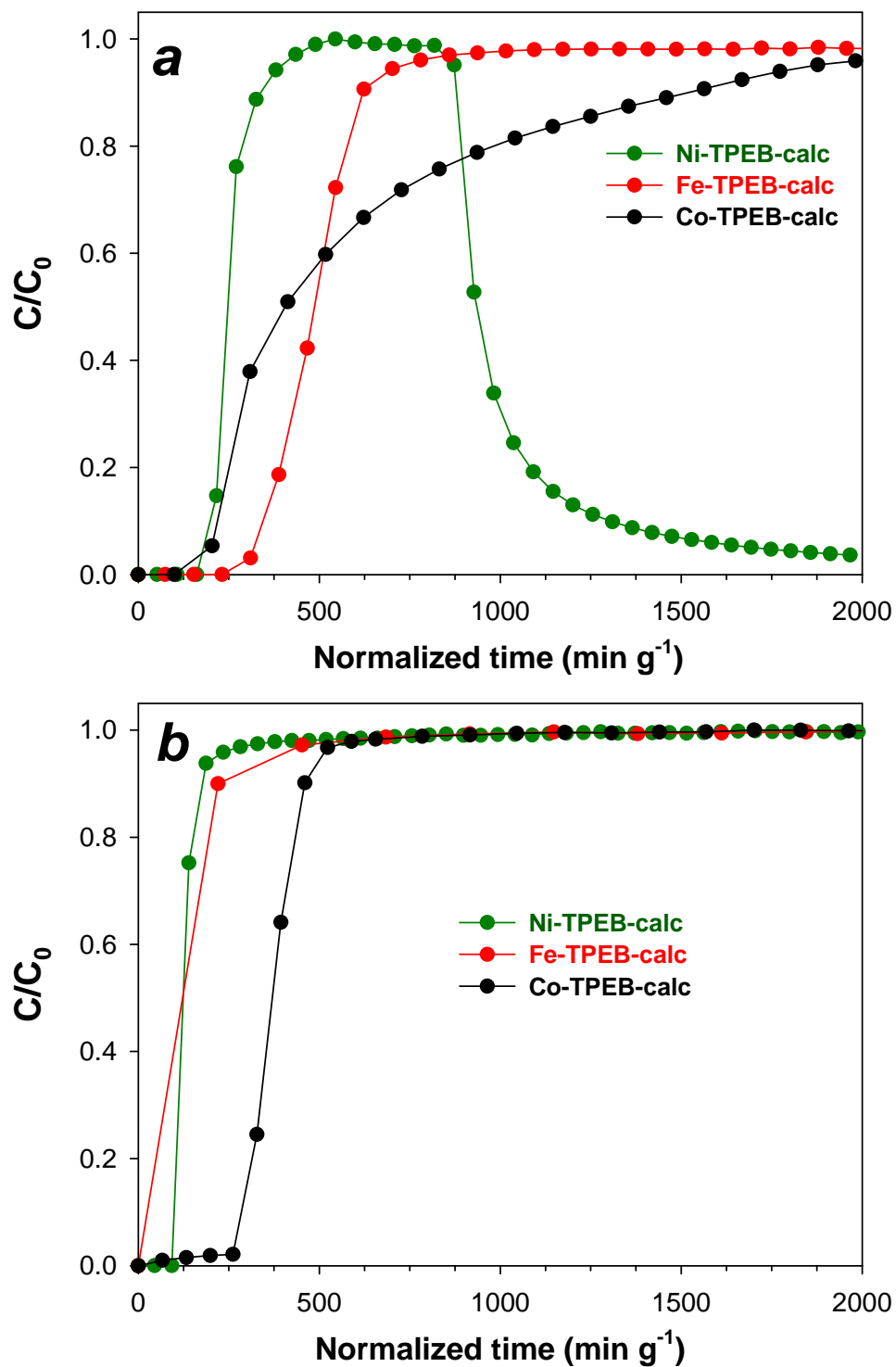


Figure S4. Expanded version of breakthrough curves presented in main manuscript Figure 3, showing the initial ammonia breakthrough.

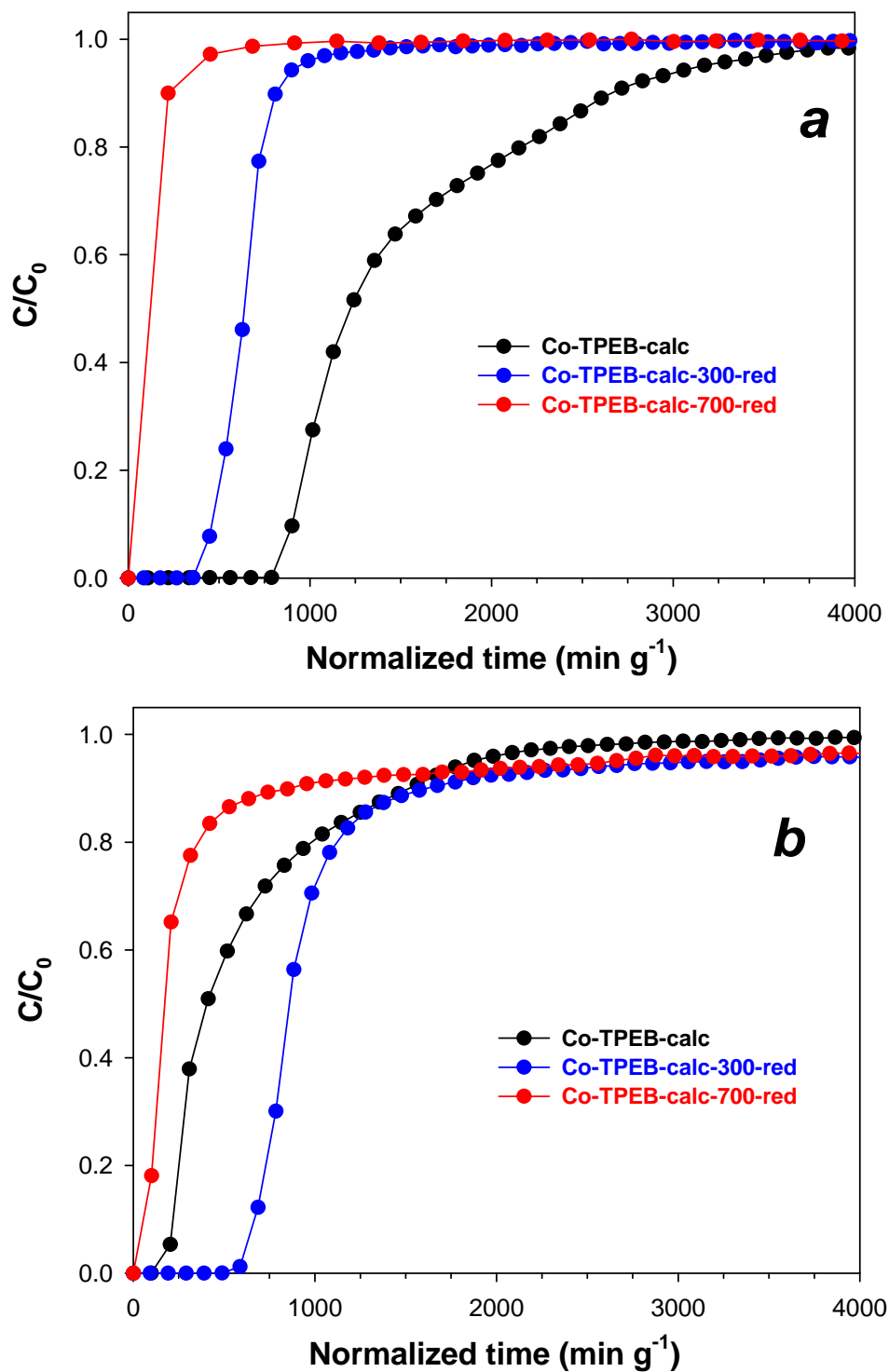


Figure S5. Expanded version of breakthrough curves presented in main manuscript Figure 8, showing the initial ammonia breakthrough.

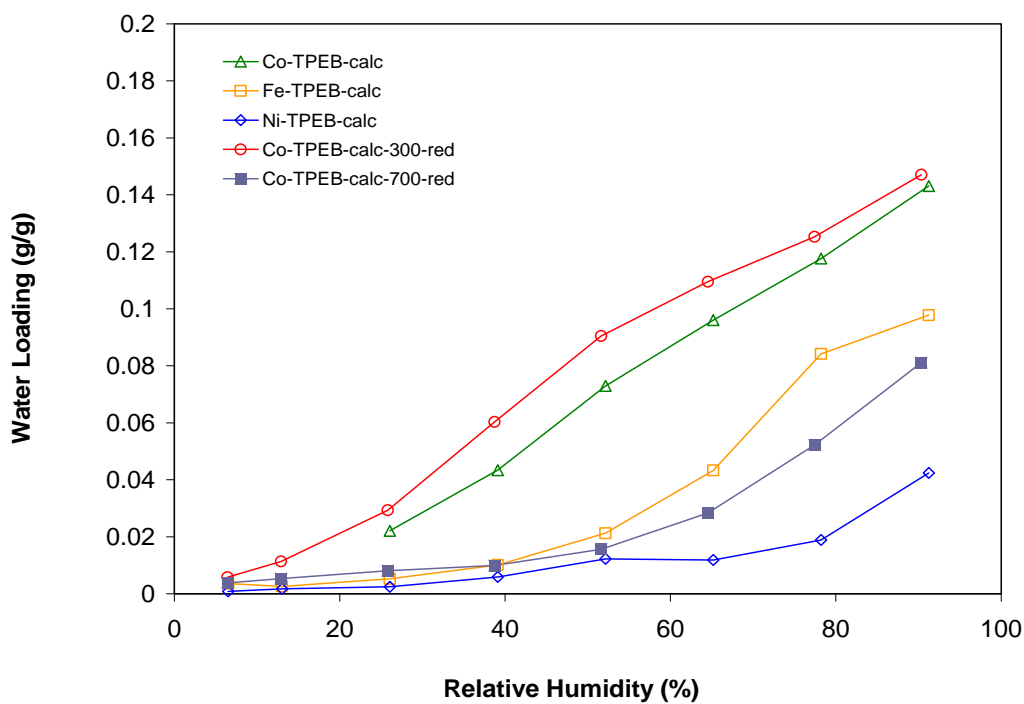


Figure S6. Water-sorption isotherms for TPEB-based materials.

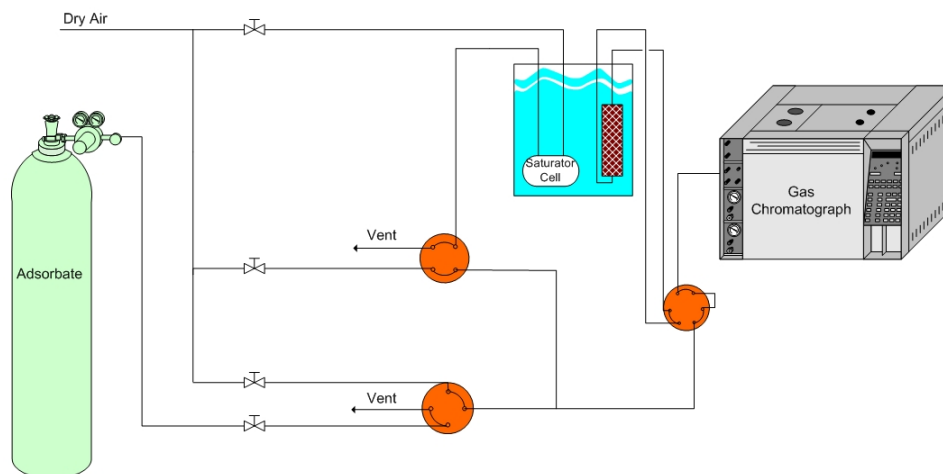


Figure S7. Schematic of micro-breakthrough testing apparatus.

Table S1. Microbreakthrough operating conditions for evaluation of NH₃

operating condition	Value
temperature	20°C
relative humidity	-40°C (~0%) dew point and 80%
NH ₃ concentration	1,000 mg/m ³
adsorbent mass	5 – 25 mg
adsorbent volume	55 mm ³
flow rate	20 mL/min
airflow velocity	2.7 cm/s
residence time	0.16 s