

Supplementary Material

Principle and Feasibility Study of Proposed Hydrate-Based Cyclopentane Purification Technology

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As shown in Figure S1, a low-field NMR system (GeoSpec 12/53, Oxford Instruments, UK, 0.3 T, 12 MHz permanent magnet, 53 mm probe) was used to measure T_2 distribution in this study. We used the following test parameters: time of recycle delay (RD) = 7500 ms; resonant frequency (RF) = 12.71 Hz; number of echoes (NOE) = 46,296; and the time between the 90° pulse and the first acquired echo (Tau) = 0.0127 ms.

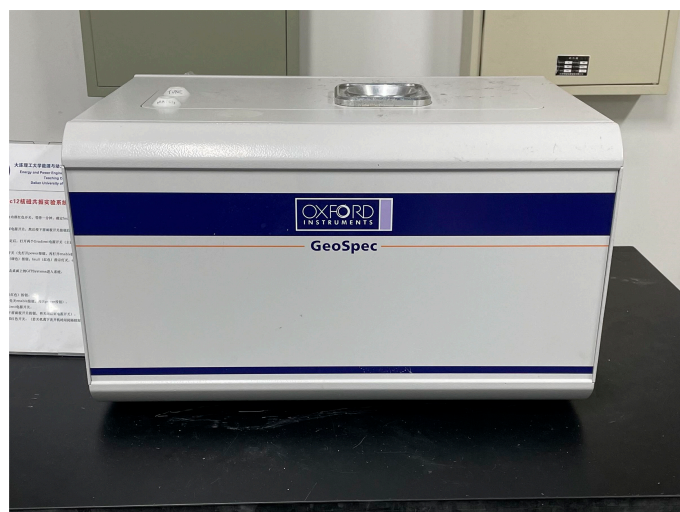


Figure S1. Nuclear Magnetic Resonance System.

As shown in Figure S2, a X-ray diffractometer (Bruker D8 Advance) was used to measure hydrate structure in this study. X-ray diffraction analysis was conducted using filtered Cu K α radiation ($\lambda = 0.154$ nm, operated at 40 kV and 40 mA). The 2θ range was set from 5° to 60° , with a step of $1.5^\circ \text{ min}^{-1}$.



Figure S2. X-ray diffractometer.

As shown in Figure S3, a Raman spectrometer (LabRAM HR Evolution, Horiba) was used to measure the Raman spectrum in this study. The Raman analysis was conducted using 532 nm laser.



Figure S3. Raman spectrometer.