

# **Synthesis, Characterization and Application of Amine Functionalized Hierarchically Micro-Mesoporous Silicon Composites for CO<sub>2</sub> Capture in Flue Gas**

Yilan Chen<sup>1,2</sup>, Junjie Wu<sup>1</sup>, Xin Wang<sup>1</sup>, Minyi Liu<sup>1,2</sup>, Yamin Liu<sup>1,2 \*</sup>

1. School of Ecological Environment and Urban Construction, Fujian University of Technology,

Fuzhou 350118, Fujian, China

2. Fuzhou Smart Environmental Industry Technology Innovation Center, Fuzhou 350118, Fujian,

China

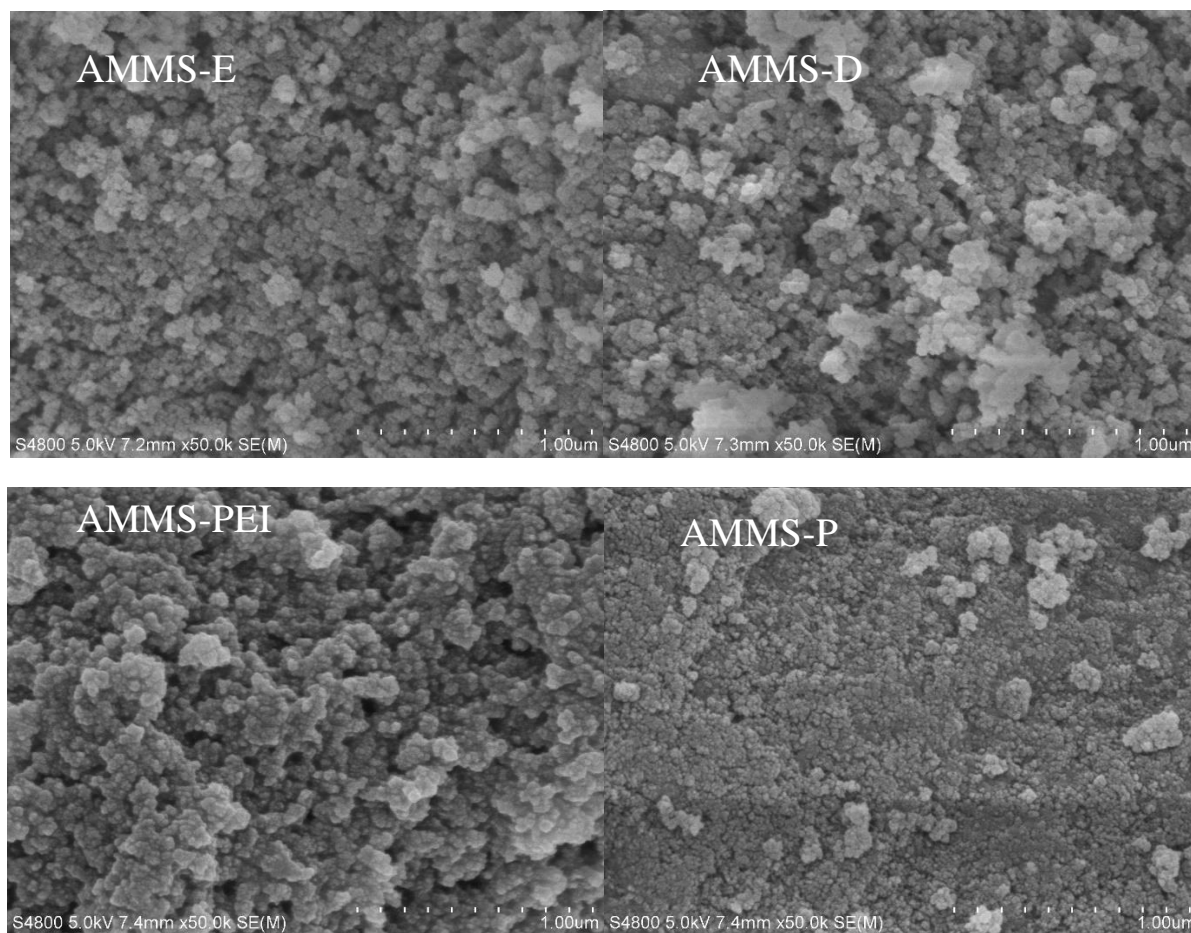
## **Supporting Information Contents:**

Figure S1. SEM images of AMMS-E, AMMS-D, AMMS-PEI and AMMS-P

Figure S2. N<sub>2</sub> adsorption isotherms of AMMS-E, AMMS-D, AMMS-P and AMMS-PEI

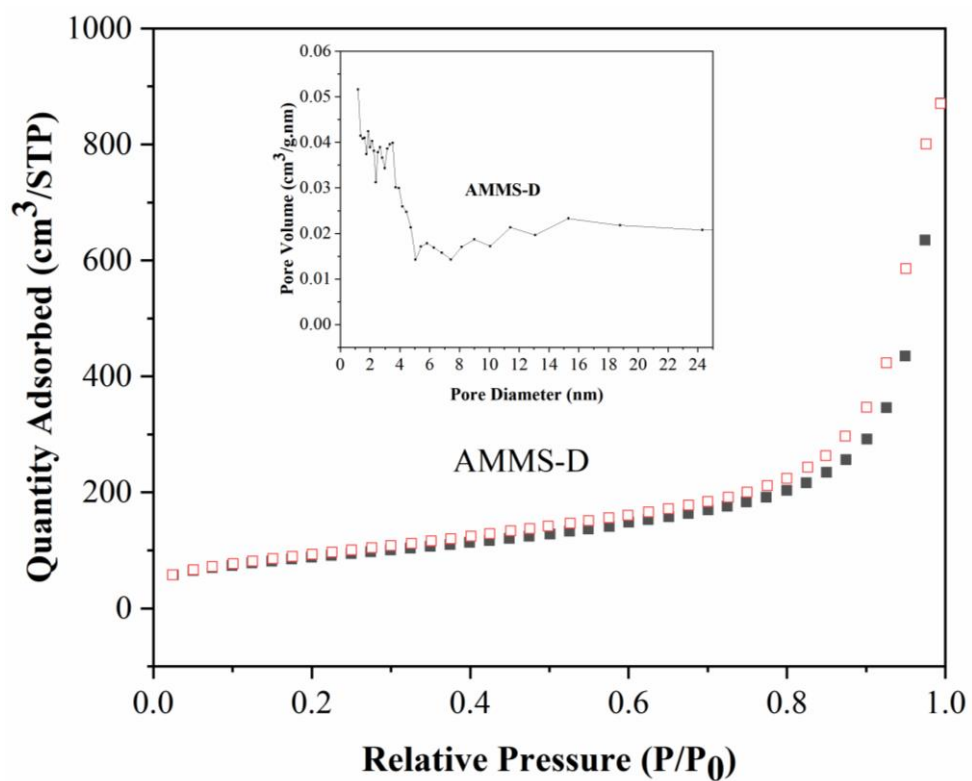
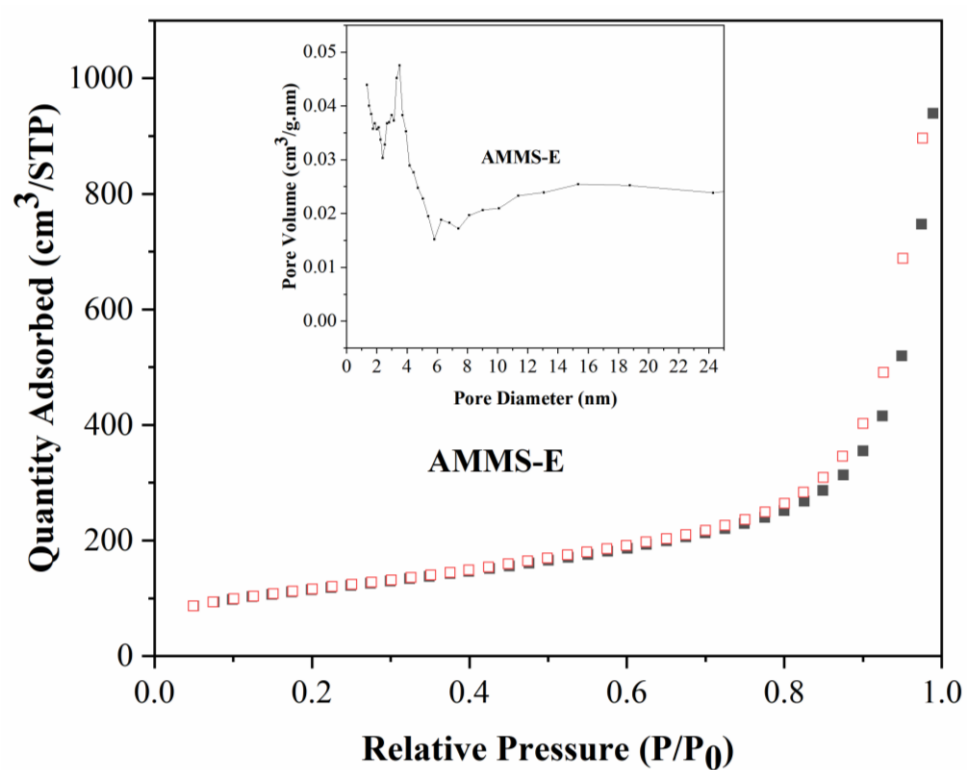
Figure S3. CO<sub>2</sub> adsorption curves of MMS, AMMS-E, AMMS-D, AMMS-P and AMMS-PEI

**Figure S1 SEM images of AMMS-E, AMMS-D, AMMS-PEI and AMMS-P**



**Figure S1 SEM images of AMMS-E, AMMS-D, AMMS-PEI and AMMS-P**

**Figure S2 N<sub>2</sub> adsorption isotherms of AMMS-E, AMMS-D, AMMS-P and AMMS-PEI**



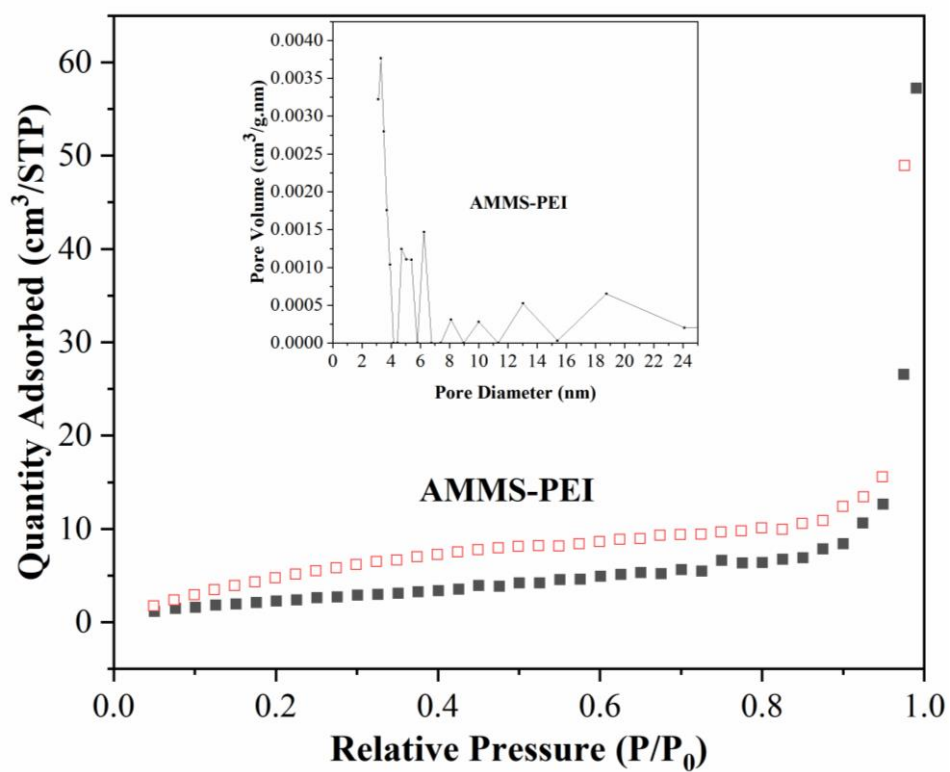
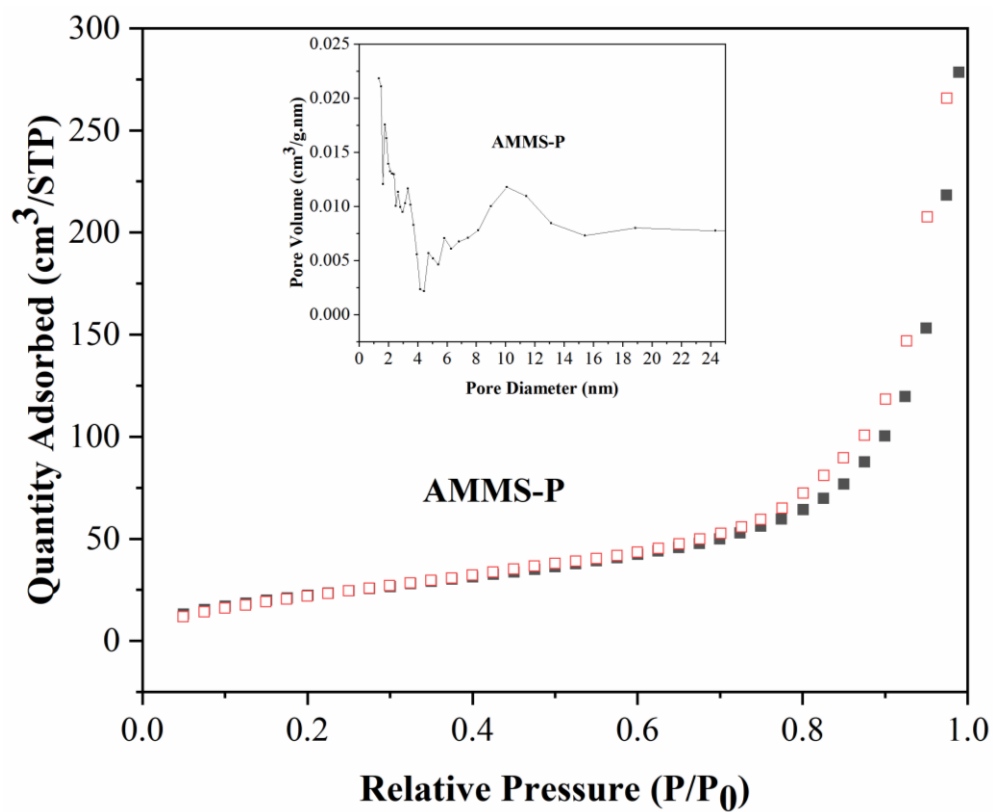
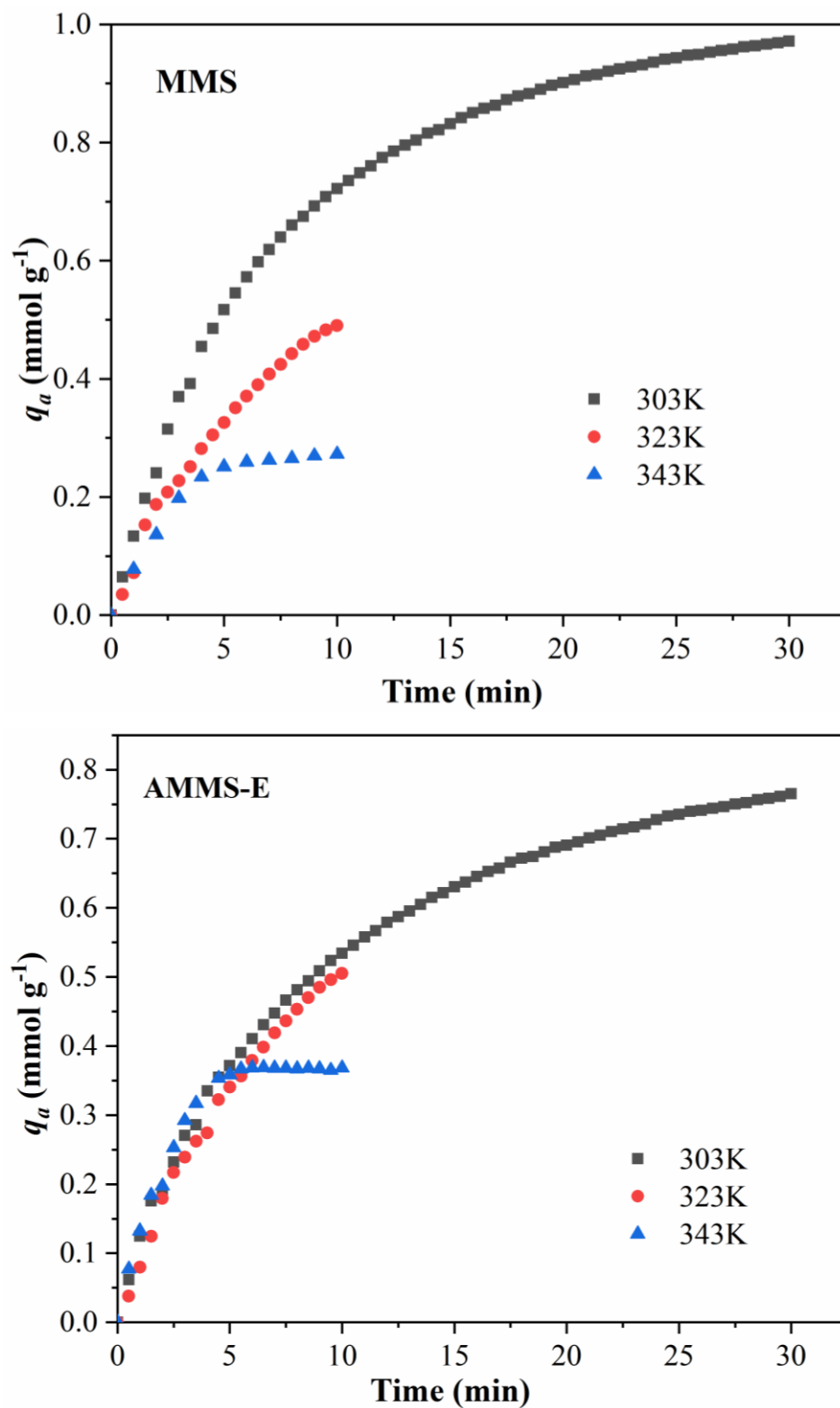
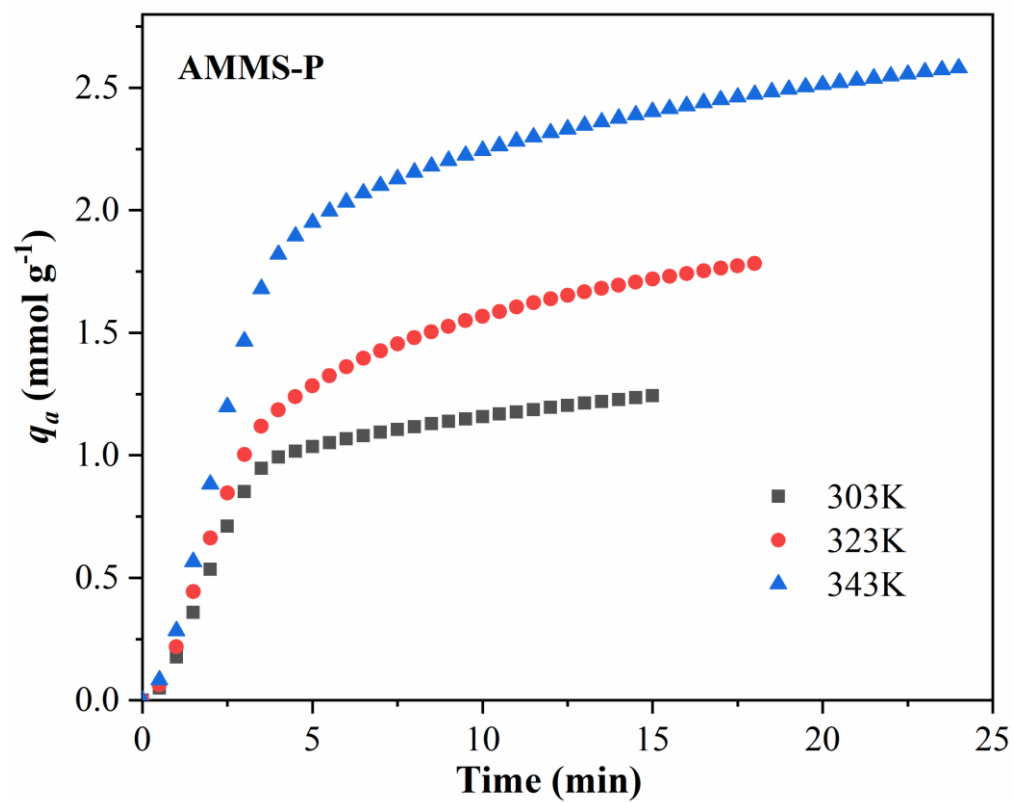
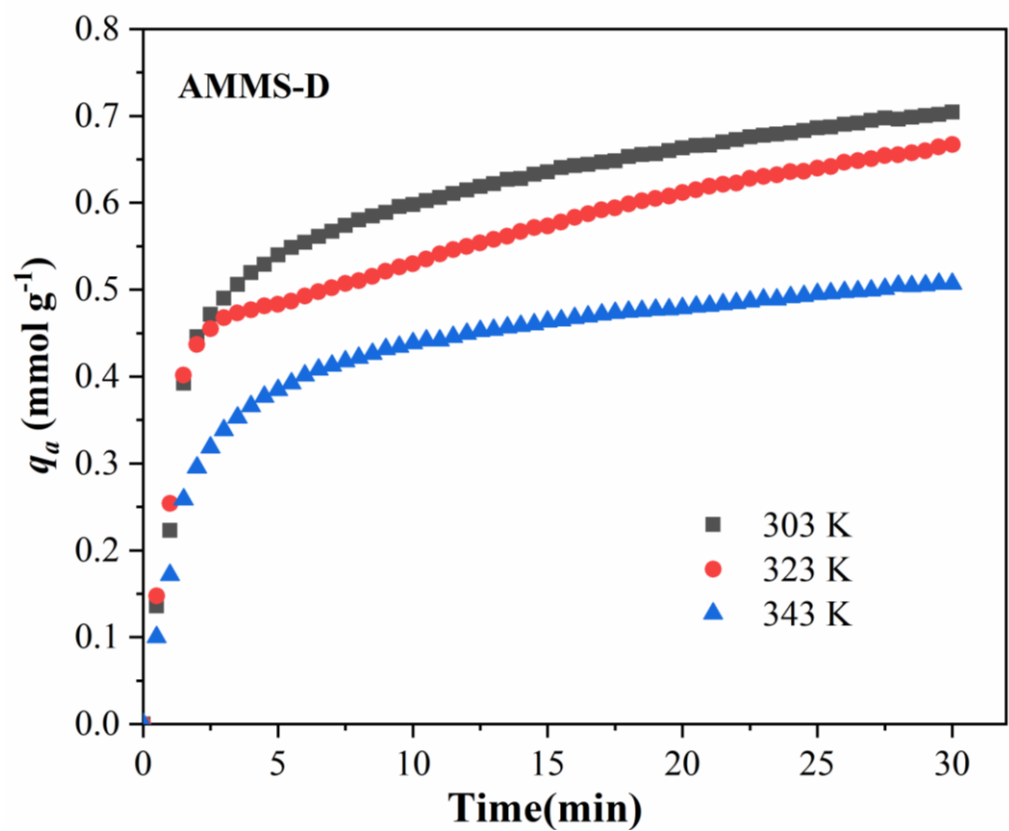


Figure S2. N<sub>2</sub> adsorption isotherms of AMMS-E, AMMS-D, AMMS-P and AMMS-PEI

**Figure S3.** CO<sub>2</sub> adsorption curves of MMS, AMMS-E, AMMS-D, AMMS-P and AMMS-PEI





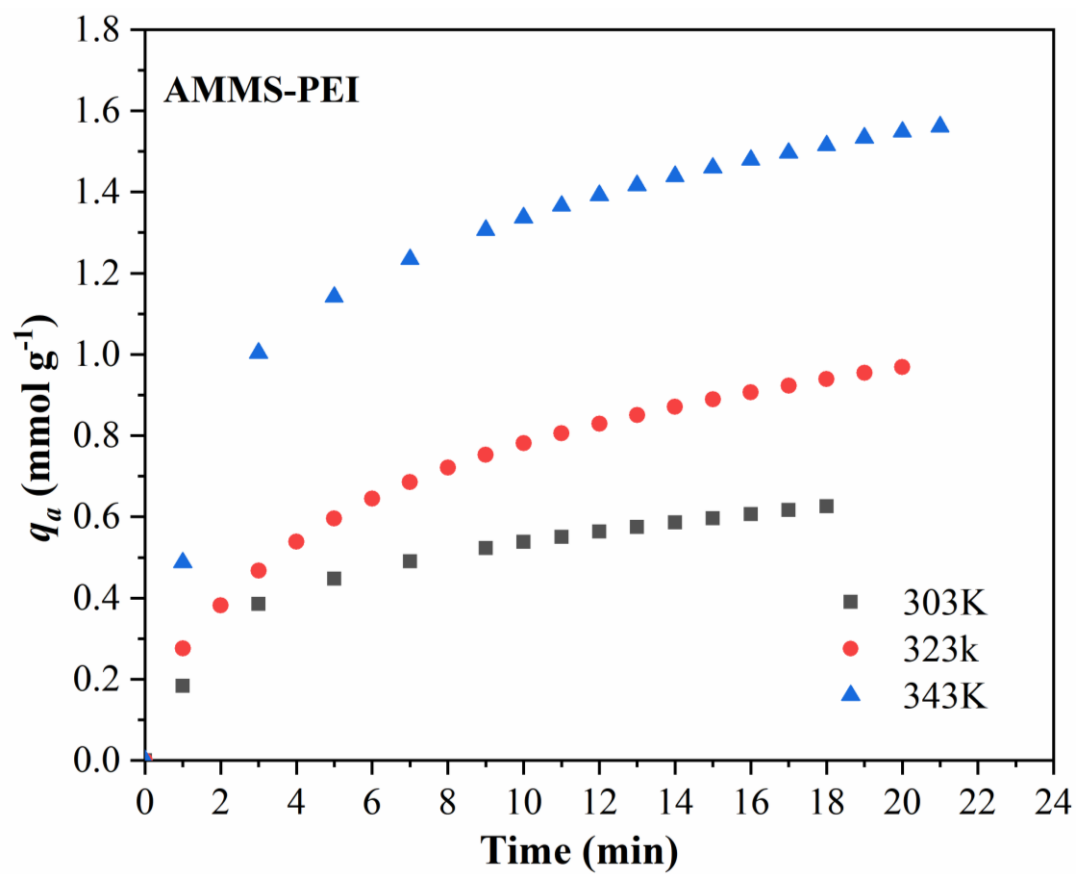


Figure S3 CO<sub>2</sub> adsorption curves of MMS, AMMS-E, AMMS-D, AMMS-P and AMMS-PEI