## **Supporting Information**

## Selective CO<sub>2</sub> Adsorption and Bathochromic Shift in a Phosphocholine-Based Lipid Bilayer Structure Assembled with a Crystalline Conjugated Polymer

Juran Noh,<sup>a</sup> Dong Geon Koo,<sup>b</sup> Chohee Hyun,<sup>c</sup> Dabin Lee,<sup>b</sup> Seohyeon Jang,<sup>b</sup> Jiho Kim,<sup>e</sup> Yejee Jeon,<sup>b</sup> Su-Young Moon,<sup>d</sup> Boknam Chae,<sup>e</sup> Inho Nam,<sup>b</sup> Tae Joo Shin\*<sup>c</sup> and Juhyun Park\*<sup>b</sup>

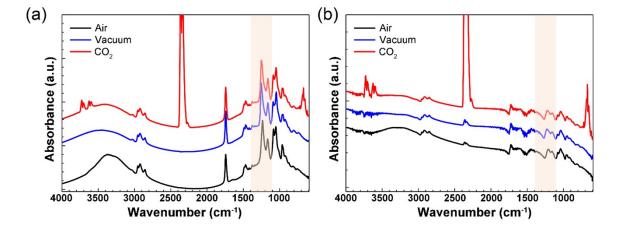


Figure S1. FT-IR absorbance spectra of (a) D7PC and (b) D7PC/P3HT film in air (black), vacuum (blue) and CO<sub>2</sub> (red) condition.

a. Department of Material Science and Engineering, Texas A&M University, College Station, TX 77843, USA.

b Department of Intelligent Energy and Industry, School of Chemical Engineering and Materials Science, Chung-Ang University, Seoul 06974, Republic of Korea.

CUNIST Central Research Facilities and School of Natural Science, Ulsan National Institute of and Technology (UNIST), Ulsan 44919, Republic of Korea.

d. C1 Gas & Carbon Convergent Research Center, Chemical & Process Technology, Korea Research Institute of Chemical Technology, Daejeon 34114, Republic of Korea

e. Pohang Accelerator Laboratory, 80 Jigok-ro, Nam-gu, Pohang, Gyeongbuk, 37673, Republic of Korea

ARTICLE Journal Name

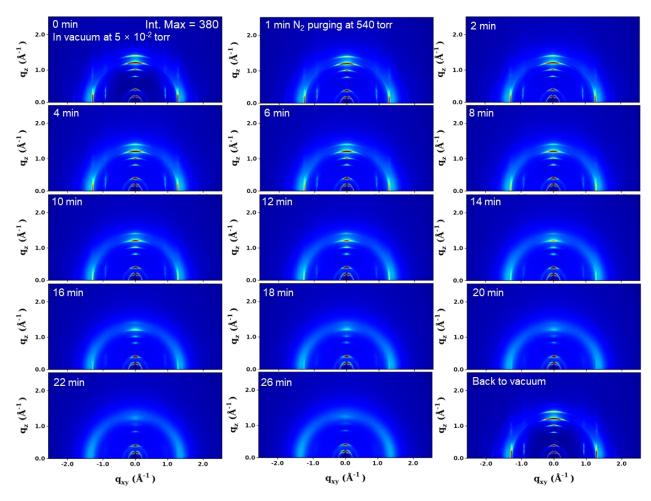


Figure S2. 2D GIWAXS patterns for the D7PC-P3HT film in vacuum, from 1 to 26 min after  $N_2$  purging and in vacuum again.

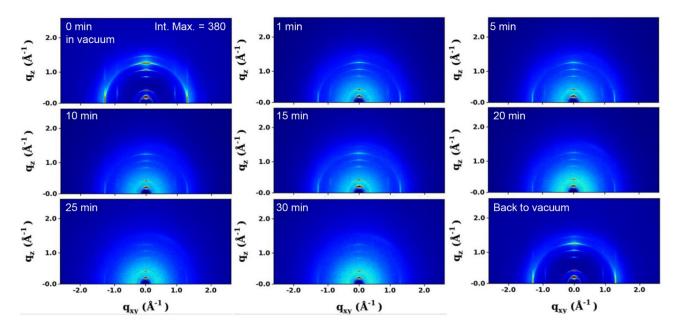


Figure S3. 2D GIWAXS patterns for the D7PC-P3HT film in vacuum, from 1 to 30 min after CO<sub>2</sub> purging and in vacuum again.