Electronic Supporting Information for

CO₂-driven reversible wettability in reactive hierarchically patterned bioinspired honeycomb film

Pierre Marcasuzaa, ‡^{a,b,c} Hongyao Yin, ‡^{a,b,c} Yujun Feng,*^a and Laurent Billon*^{b,c}

- ^a Polymer Research Institute, State Key Laboratory of Polymer Materials Engineering, Sichuan University, Chengdu 610065, PR China. E-mail: <u>yjfeng@scu.edu.cn</u>; Tel: +86 28 85 40 80 37
- ^b IPREM, E2S Université de Pau & Pays Adour, CNRS UMR 5254, 2 Avenue du President Angot, Pau F-64053, France
- ^c Bio-inspired Materials Group, Functionality & Self-assembly, Université de Pau & Pays Adour, 2 avenue du President Angot, Pau F-64053, France. E-mail: <u>laurent.billon@univ-pau.fr</u>; Tel: +33 05 59 40 76 09
- [‡] These authors contributed equally to this work.



Figure S1. ¹H NMR spectrum of BQME in CDCl₃



Figure S3. IR spectrum of BQME



Figure S4. ¹H NMR spectrum of azide-modified PS-*b*-PVBC from solubilized honeycomb films





with remaining PS-*b*-PVBC and PS-*b*-PAzide due to the top surface modification by click chemistry.



Figure S7. AFM image (top) and CO₂-induced reversible CA change (bottom) of continuous

film.