Supporting Information for

A Critical Role of Amphiphilic Polymers in Organic-Inorganic Hybrid Sol-Gel Derived Gate Dielectrics for Flexible Organic Thin-Film Transistors

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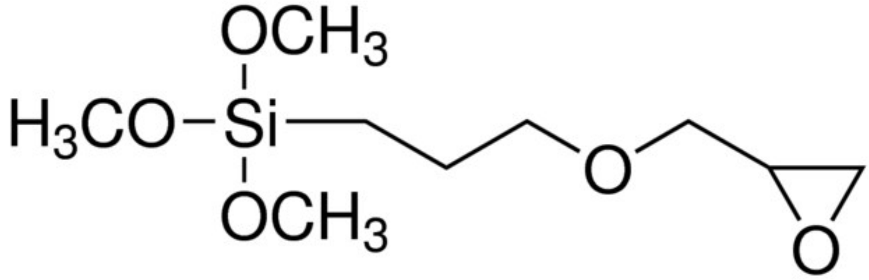
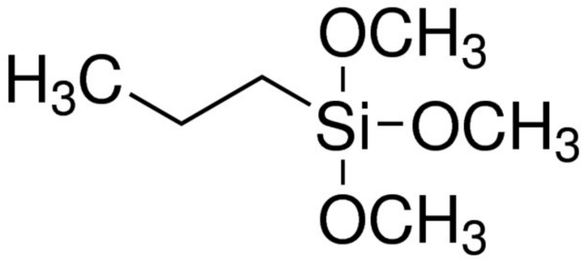
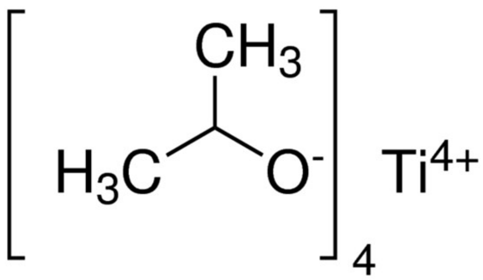


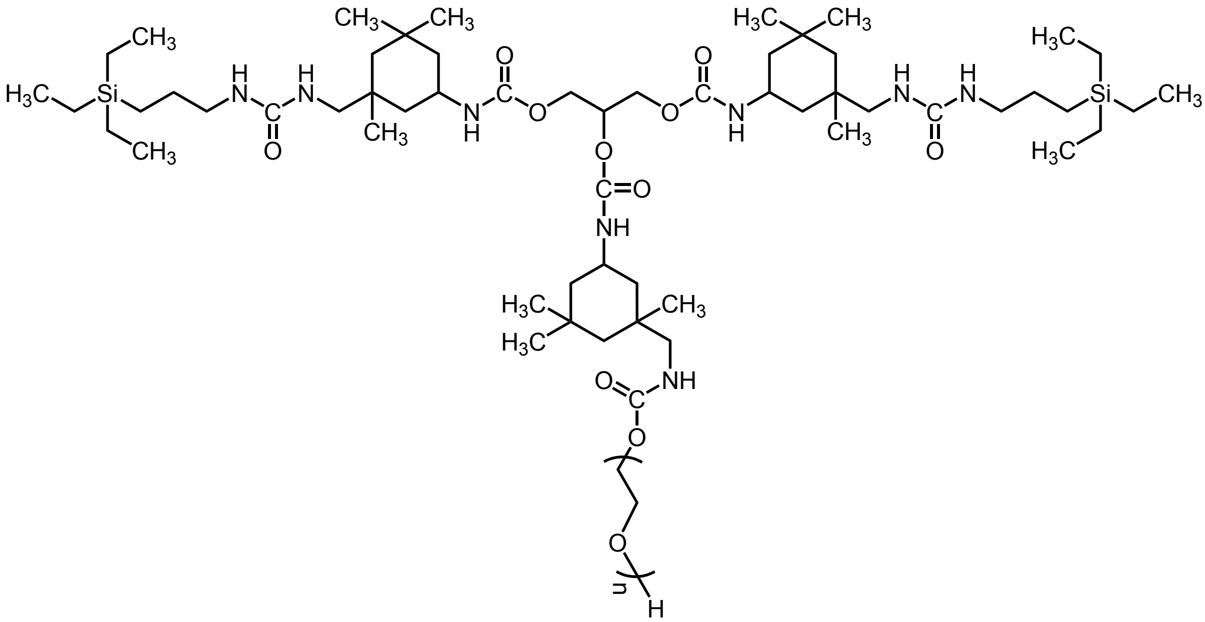
(3-glycidyloxypropyl)trimethoxysilane (GPTMS)



propyltrimethoxysilane (PTMS)



titanium(IV) isopropoxide (TTiP)



Alkoxysilane-Functionalized Amphiphilic Polymer (AFAP)

Figure S1. Chemical structures of (3-glycidyloxypropyl)trimethoxysilane (GPTMS), propyltrimethoxysilane (PTMS), titanium(IV) isopropoxide (TTiP), and alkoxysilane-functionalized amphiphilic polymer (AFAP).

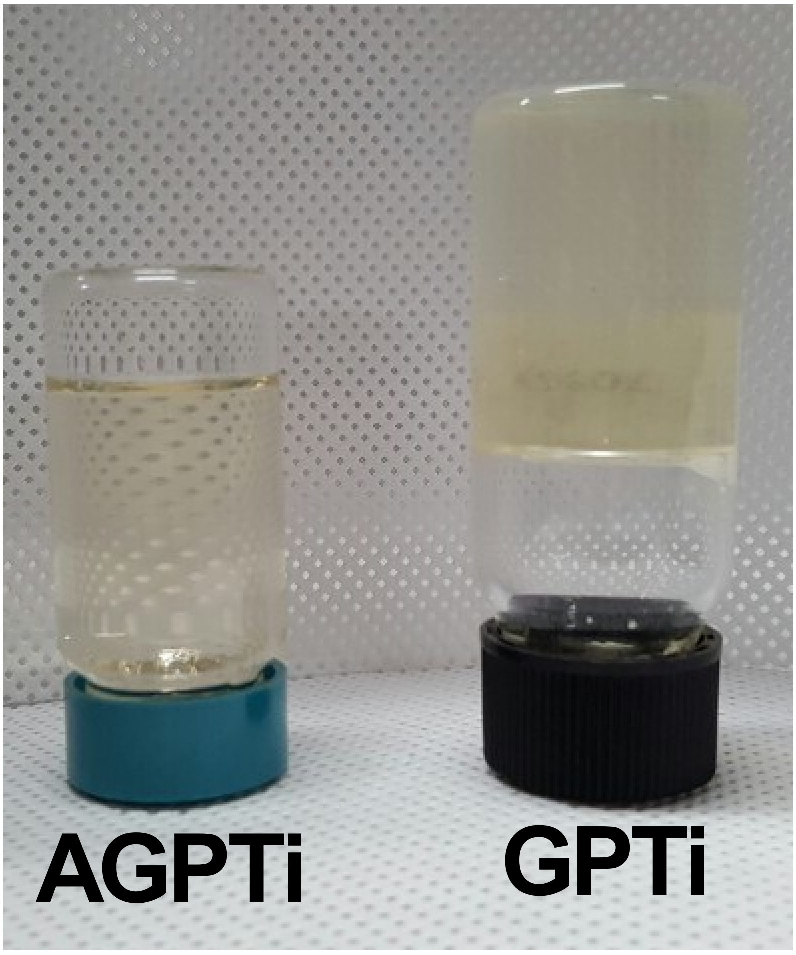


Figure S2. Photographs of AGPTi and GPTi sol solutions two months after they were prepared.

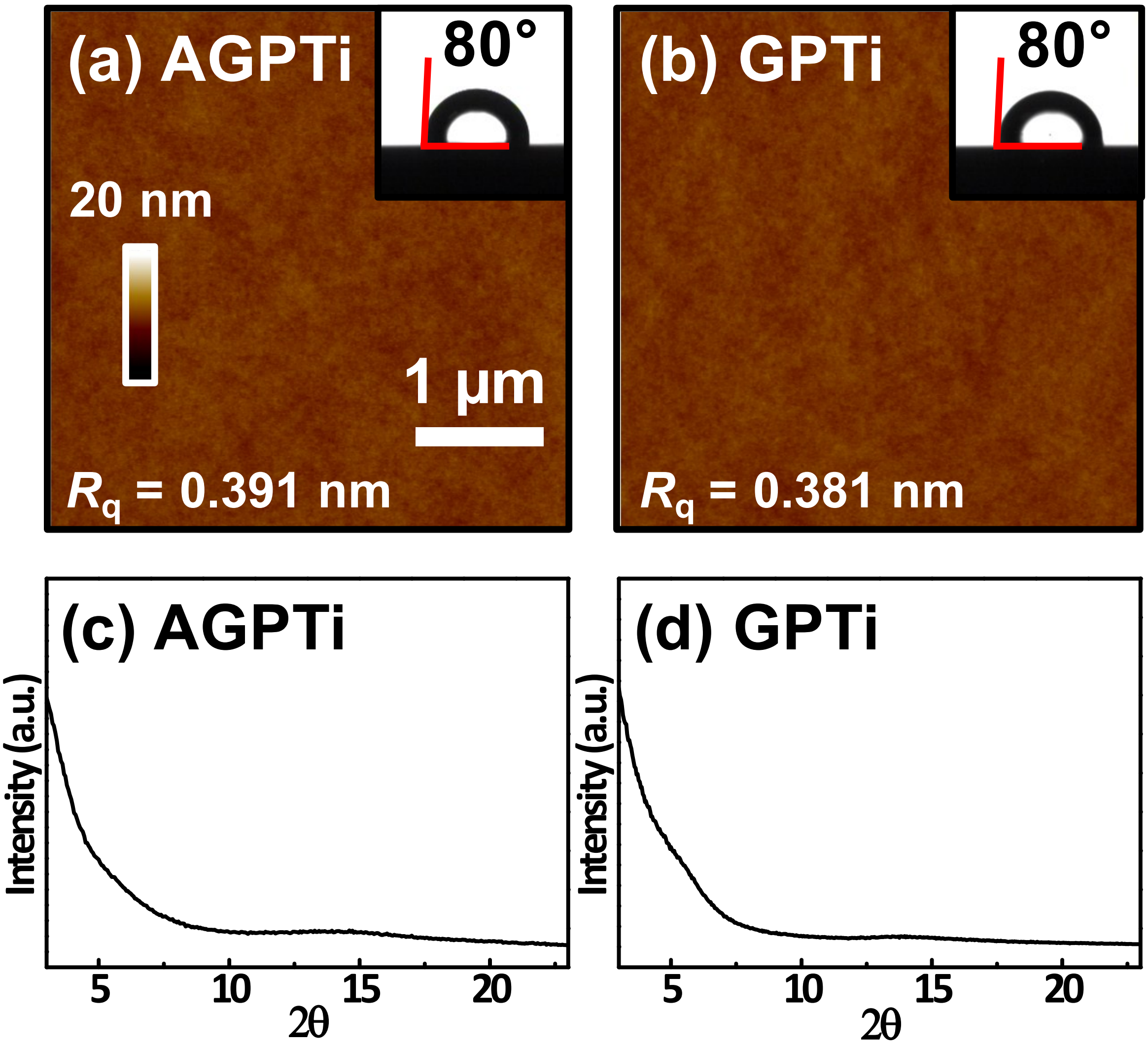


Figure S3. AFM images (a–b) and XRD analysis (c–d) of AGPTi (a and c) and GPTi (b and d). Insets: water contact angles of AGPTi and GPTi.

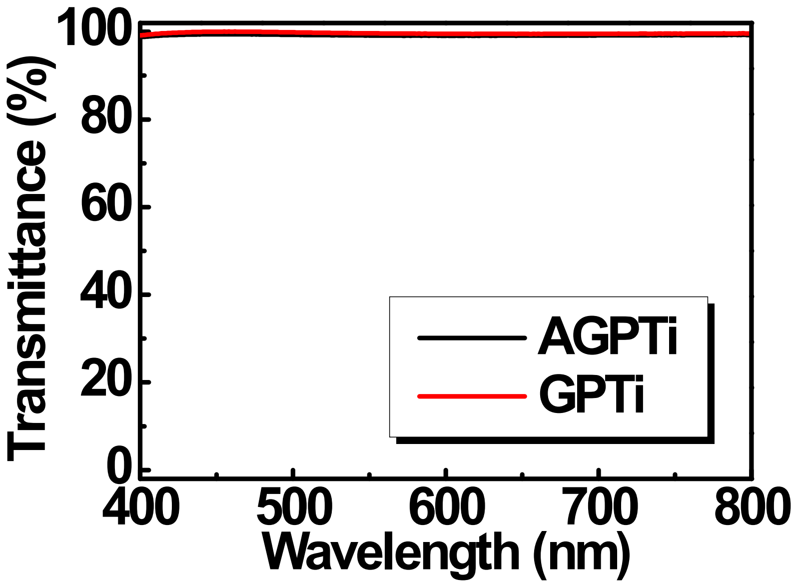


Figure S4. UV-visible spectra of AGPTi and GPTi films.

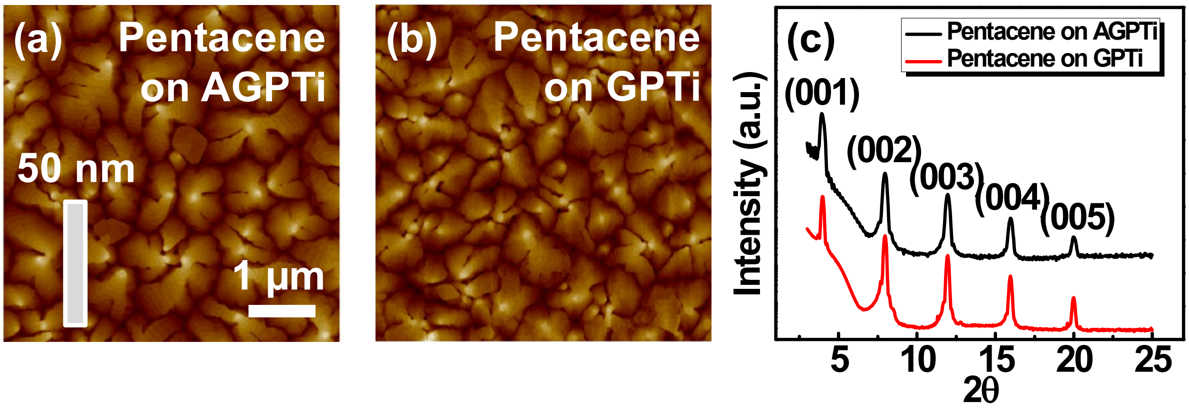


Figure S5. AFM images (a and b) and XRD analysis (c) of 50-nm-thick pentacene layers on AGPTi and GPTi films.

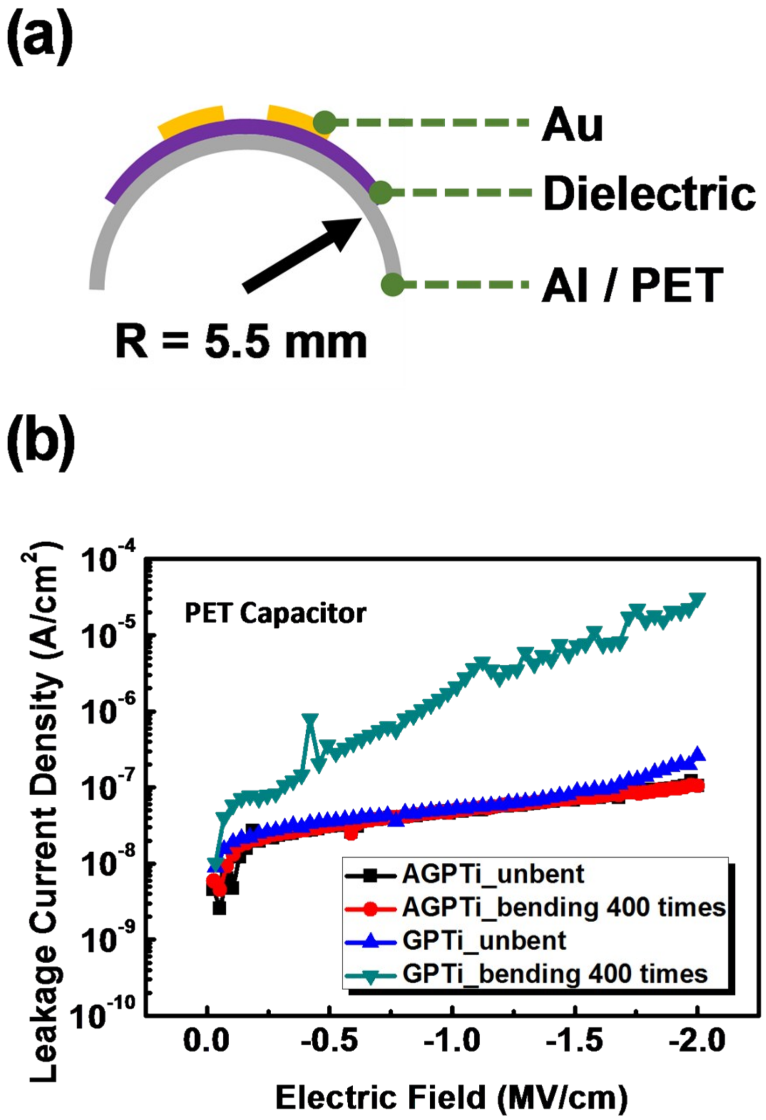


Figure S6. Scheme of flexible capacitors (a), and leakage current density levels of the flexible capacitors before/after bending (b).

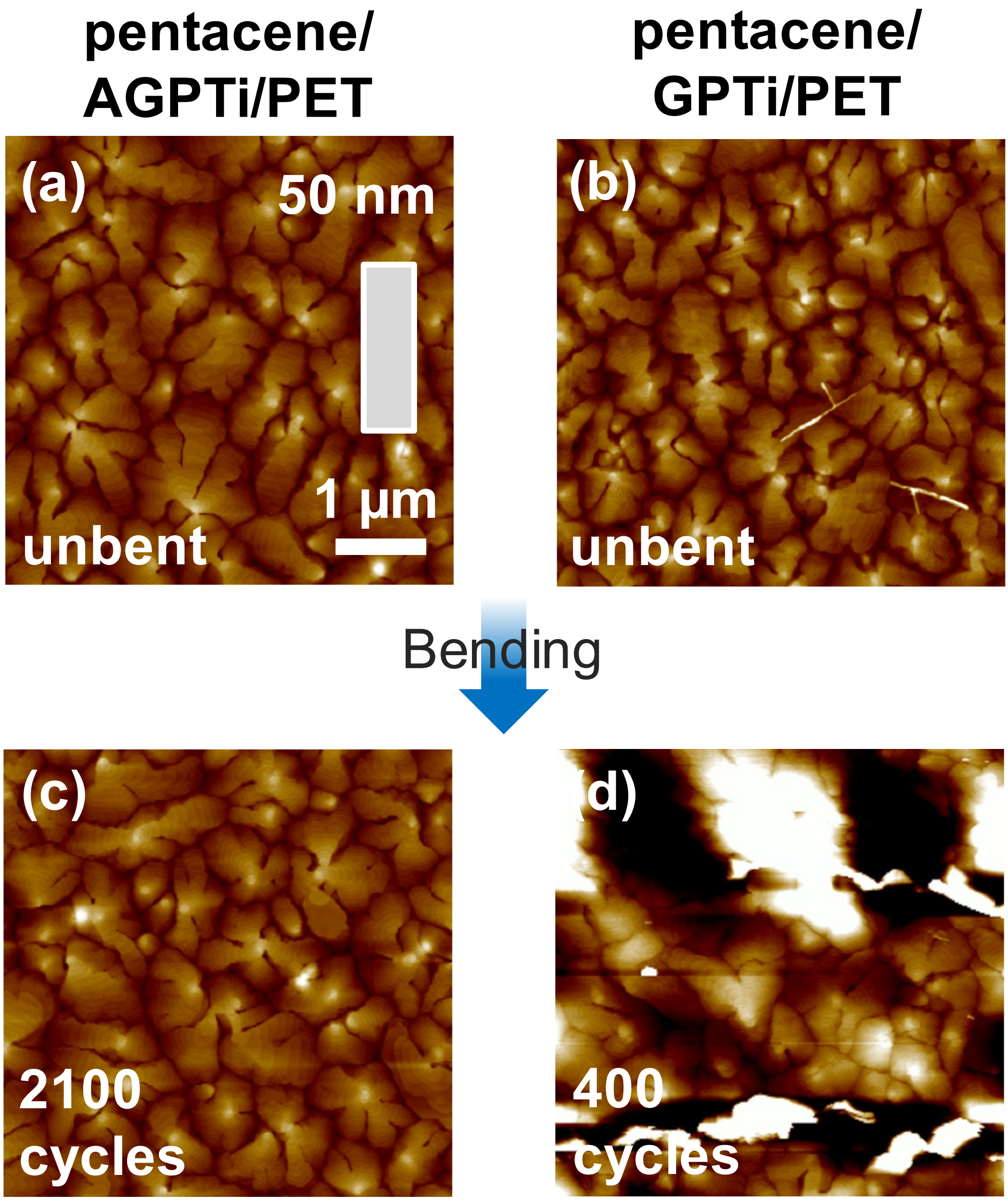


Figure S7. AFM images of 50-nm-thick pentacene layers on AGPTi (a and c) and GPTi (b and d)/PET films before (a and b)/after (c and d) bending.

Table S1. Water and diiodomethane contact angles of AGPTi and GPTi films, and their surface energy

Gate dielectrics	Water contact angle θ_{water}	Diiodomethane contact angle θ_{water}	Surface energy [mJ/m^2]
AGPTi	80°	40°	40.07
GPTi	80°	47°	36.91