

Electronic supplementary information. (ESI)

**Control of Growth Mode and Crystallinity of Aluminum Doped
Zinc Oxide Thin Film at Room Temperature by Self-Assembled
Monolayer Assisted Modulation on Substrate Surface Energy**

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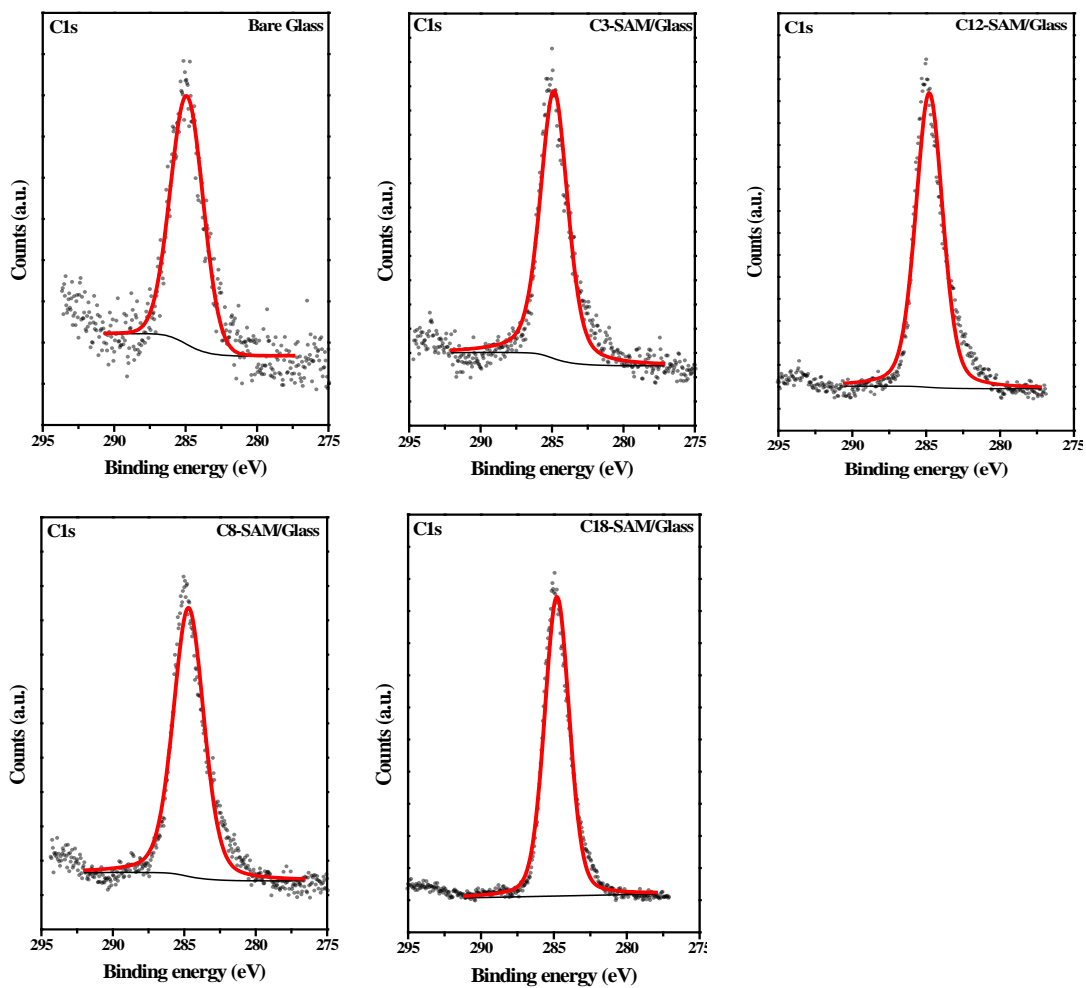


Figure S1. C1s XPS spectra of pristine and various alkylsilane SAMs modified glass substrates.

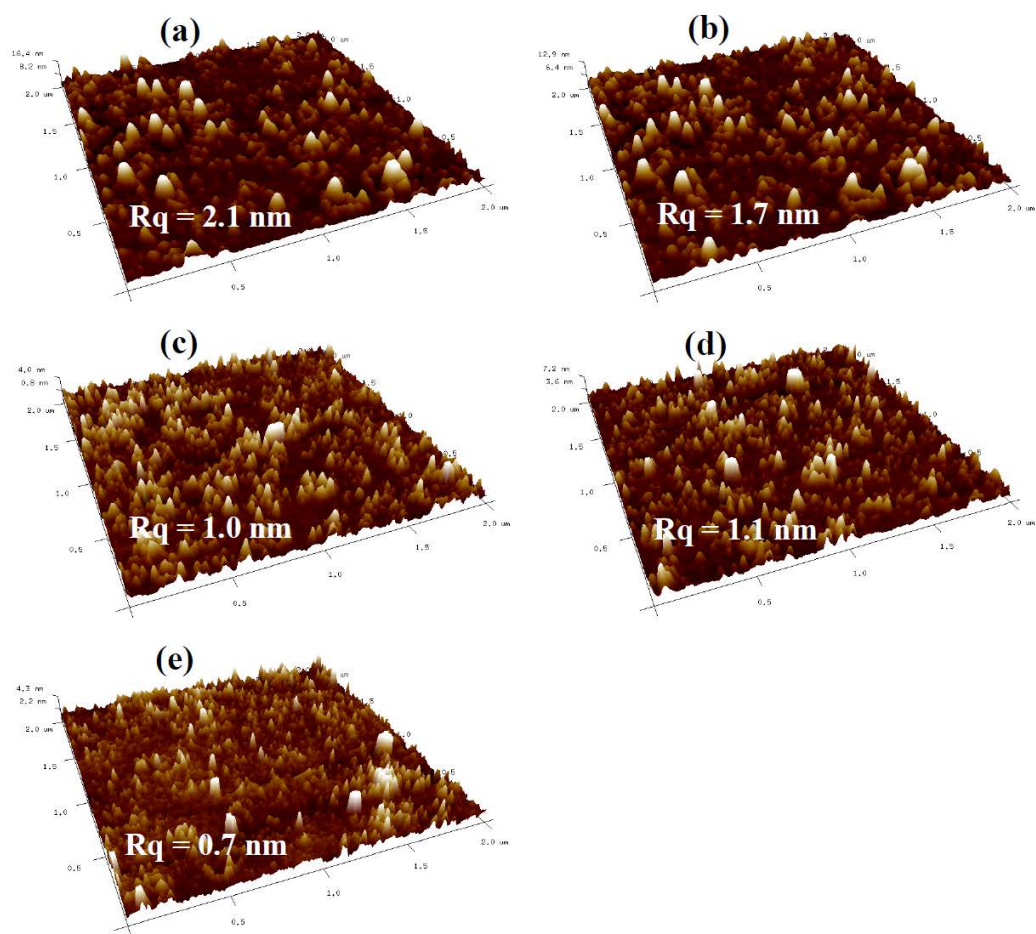


Figure S2. AFM images and surface roughness of (a) pristine, (b) C3-SAM, (c) C8-SAM, (d) C12-SAM, and (e) C18-SAM modified glass substrates.

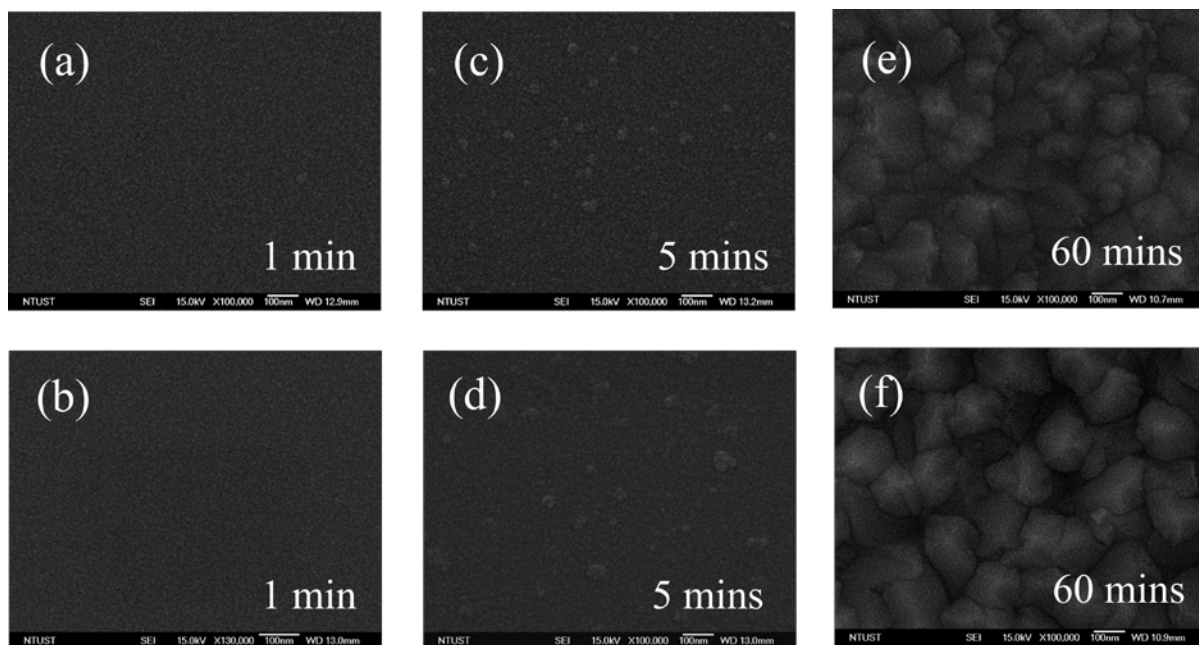


Figure S3. SEM images of AZO films deposited at different deposition time 1, 5 and 60 minutes on C8-SAM ((a), (c), and (e)) and C12-SAM ((b), (d), and (f)) modified glass substrates.

Table S1. The optical bangap of AZO thin films deposited on pristine and various alkylsilane SAMs modified glass substrates.

| AZO films | AZO/glass | AZO/C3/glass | AZO/C8/glass | AZO/C12/glass | AZO/C18/glass |
|------------|-----------|--------------|--------------|---------------|---------------|
| E_g (eV) | 3.34 | 3.35 | 3.36 | 3.37 | 3.37 |