SUPPORTING INFORMATION PARAGRAPH

Calculation of interfacial energy

The rudimentary relationship between $\gamma_{sub/ZnO}$ (the interfacial energy between a ZnO nucleus and the SAM-treated substrate) and γ_{sub} (the total surface energy of the SAM-treated substrate) can be estimated by using a theoretical model suggested by Wu.[19]

$$\gamma_{sub/ZnO} = \gamma_{sub} + \gamma_{ZnO} - 4(\gamma_{sub}^{d}\,\gamma_{ZnO}^{d})/(\gamma_{sub}^{d} + \gamma_{ZnO}^{d}) - 4(\gamma_{sub}^{p}\,\gamma_{ZnO}^{p})/(\gamma_{sub}^{p} + \gamma_{ZnO}^{p}),$$

where γ_{ZnO} is the surface energy of a ZnO nucleus and the indices d and p refer respectively to the dispersive and polar components. γ_{ZnO} was assumed to be identical to the surface energy of the bare ZnO seed layer. Based on the measurement in Table 1, $\gamma_{sub/ZnO}$ is shown as a function of γ_{sub} in Figure S1. The estimated interfacial energy $\gamma_{sub/ZnO}$ would decrease as γ_{sub} increases. Hence, until a minimum surface energy is exceeded (i.e., $\gamma_{sub/ZnO}$ becomes less than $\gamma_{liq/ZnO}$), heterogeneous nucleation on the treated substrates is expected to be suppressed.

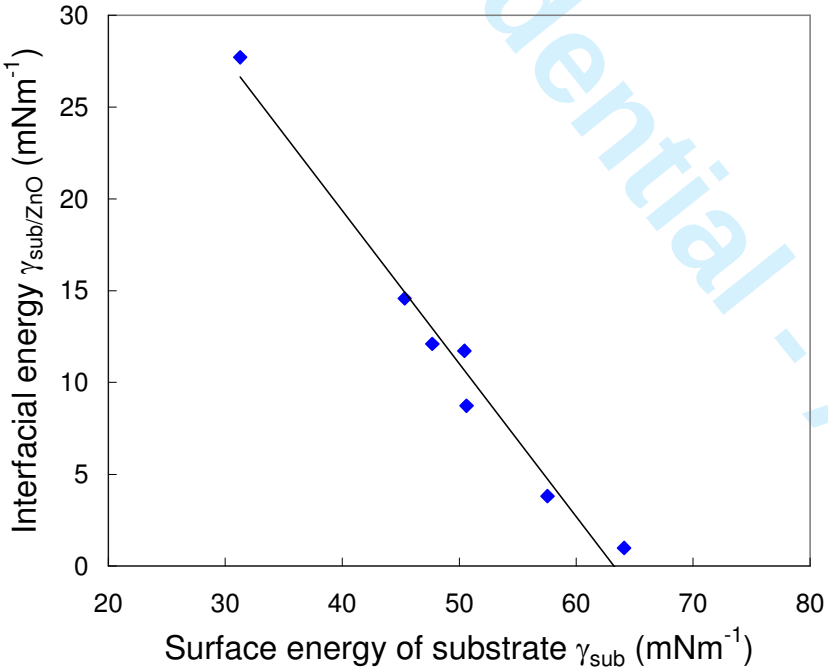

Figure S1 Interfacial energy between a ZnO nucleus and the mixed SAM-treated ZnO substrate, as a function of the surface energy of the mixed SAM treated ZnO substrate.