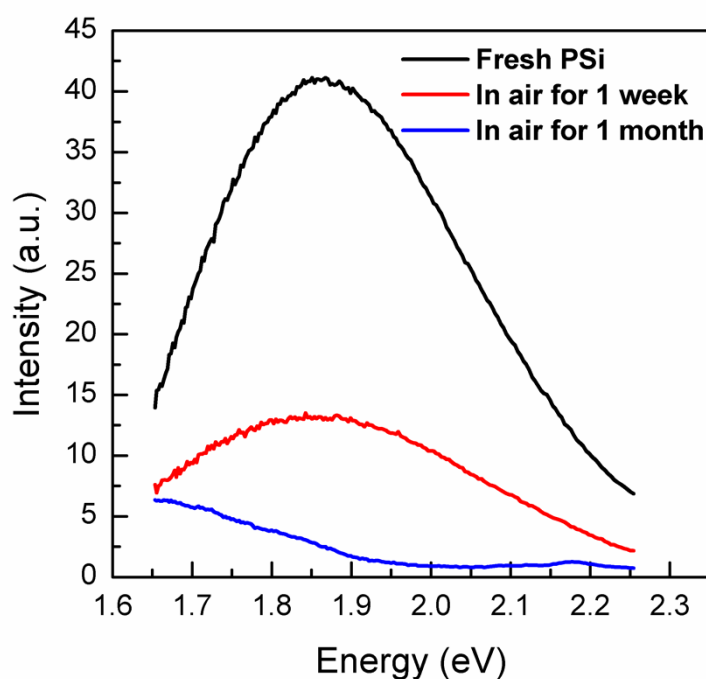


## Supporting Information for New Journal of Chemistry

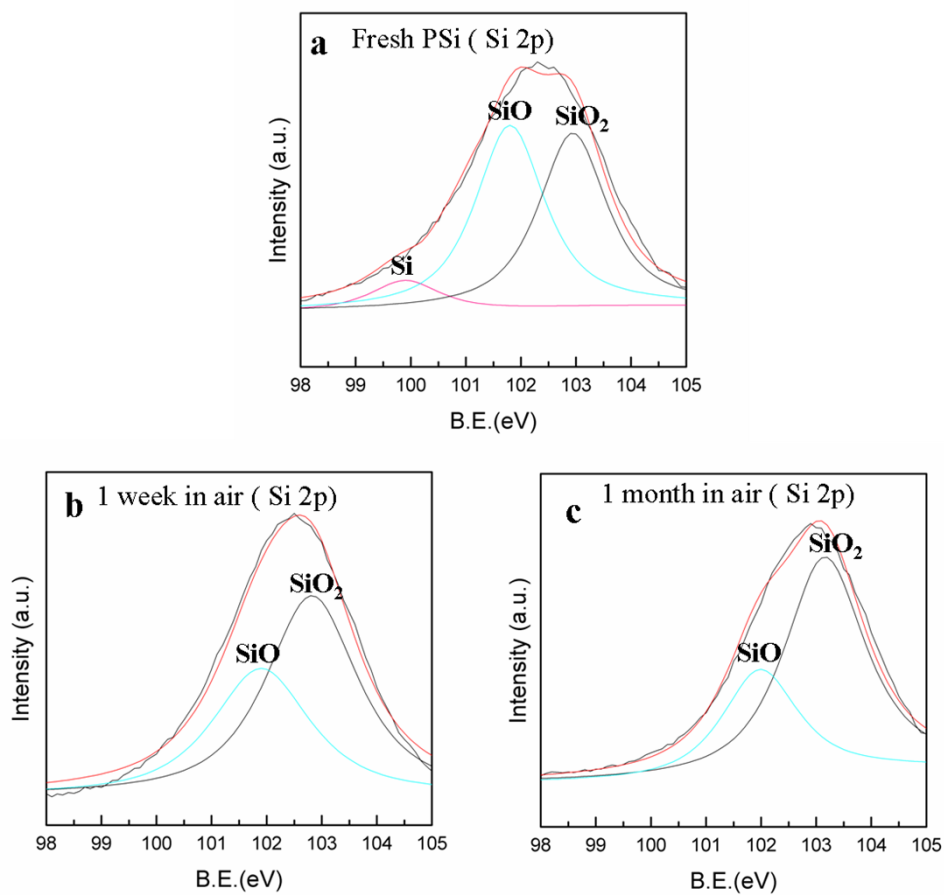
### Synthesis and fluorescence property of columnar porous silicon: the influence of Cu-coating on photoluminescence behaviour from hydrofluoric-acid-treated aged columnar porous silicon

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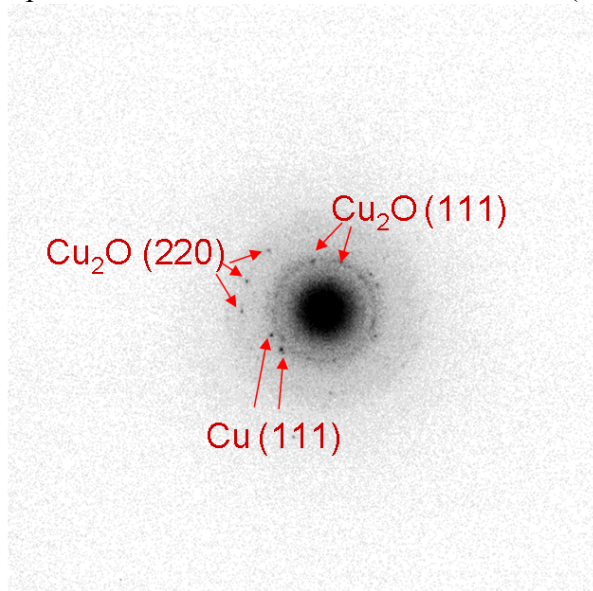
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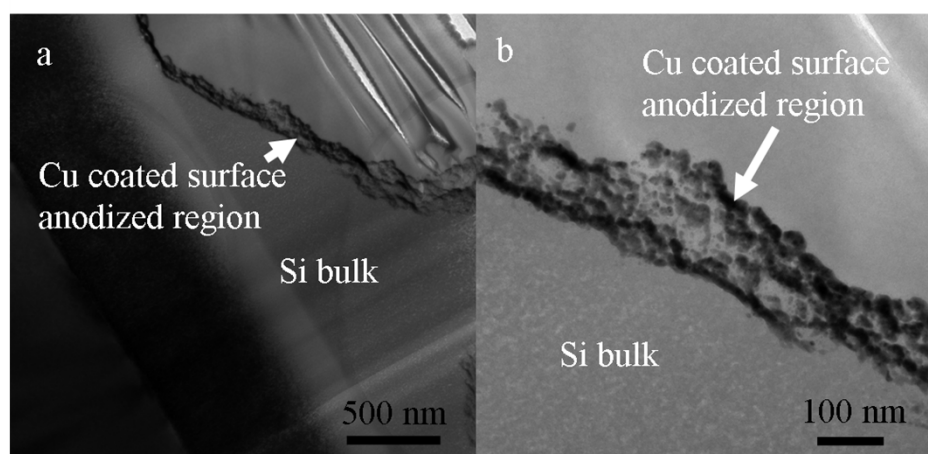
**Figure S1.** Photoluminescence spectra of as-prepared porous silicon at different periods after preparation (The sample was kept under ambient air conditions).



**Figure S2.** Narrow X-ray photospectra of Si 2p of freshly prepared porous silicon sample (a), sample kept under ambient conditions for one week (b), and one month (c).



**Figure S3.** Selected area electron diffraction pattern of Cu-coated porous silicon (The diffraction area is the same as the area shown in Figure 3b).



**Figure S4.** (a) TEM lateral image of the Cu-PSi, the sputtering time of Cu was 1 min.  
(b) Enlarged lateral image of the Cu-PSi.