Supporting Information for

Assembly of alizarin red S/boric acids ultrathin films based on
layered double hydroxide with fluorescence turn on detection of
tiopronin

Haiqin Wu and Lan Jin*

State Key Laboratory of Chemical Resource Engineering, Beijing University of
Chemical Technology, Beijing 100029, China

* Corresponding author. Tel: +86-10-64412131; Fax: +86-10-64425385.

E-mail address: jinlan@mail.buct.edu.cn (Lan Jin).

Fig. S1 (A-B) SEM of the powdered samples of Mg$_2$Al-NO$_3$-LDH; (C) XRD patterns of powdered samples of LDH: (a) Mg$_2$Al-CO$_3$-LDH, (b) Mg$_2$Al-NO$_3$-LDH; (D) digital picture of its colloidal suspension.
Fig. S2 UV-vis absorption spectra (ARS-H$_3$BO$_3$/LDH)$_{40}$ UTFs fabricated with different pH (pH=5.0, 6.0, 7.0, 8.0, respectively).

Table S1. The date analysis of confocal microscope about (ARS-H$_3$BO$_3$/LDH)$_{40}$ UTFs assembled on the quartz substrates with different pH.

<table>
<thead>
<tr>
<th>pH 值</th>
<th>5.0</th>
<th>6.0</th>
<th>7.0</th>
<th>8.0</th>
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<tbody>
<tr>
<td>C$_{\text{boric acid}}=0.2\text{M}$ (Mean Value)</td>
<td>4.22</td>
<td>7.59</td>
<td>14.98</td>
<td>9.73</td>
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**Fig.S3** The correlation between the times and the fluorescence intensity at 622nm after adding into 3600nM Cu^{2+} (\(\lambda_{ex}=510\) nm).

**Fig.S4** XRD of (ARS-H_{3}BO_{3}/LDH)\textsubscript{40} UTFs after four measurement cycles.