

## Supplementary information

### **A highly selective fluorescent probe for real-time imaging of bacterial NAT2 and high-throughput screening natural inhibitors to therapy tuberculosis**

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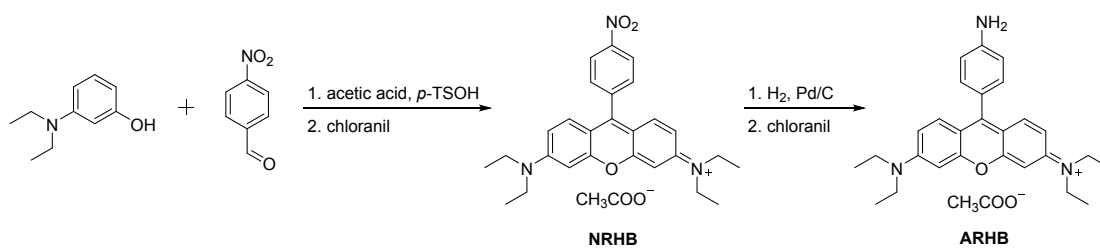
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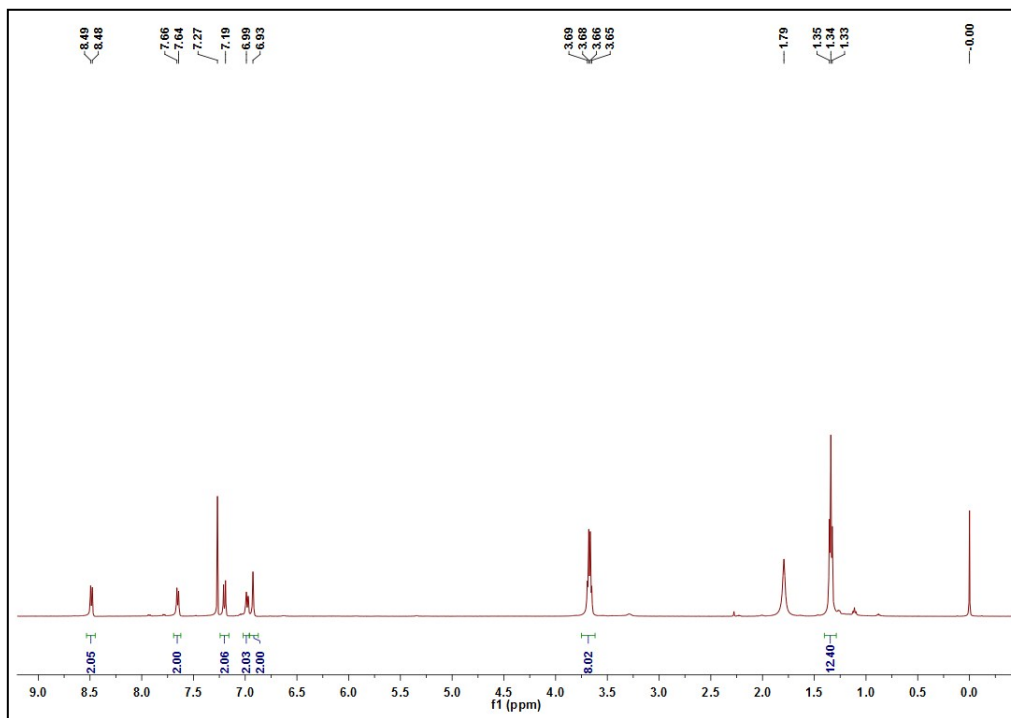
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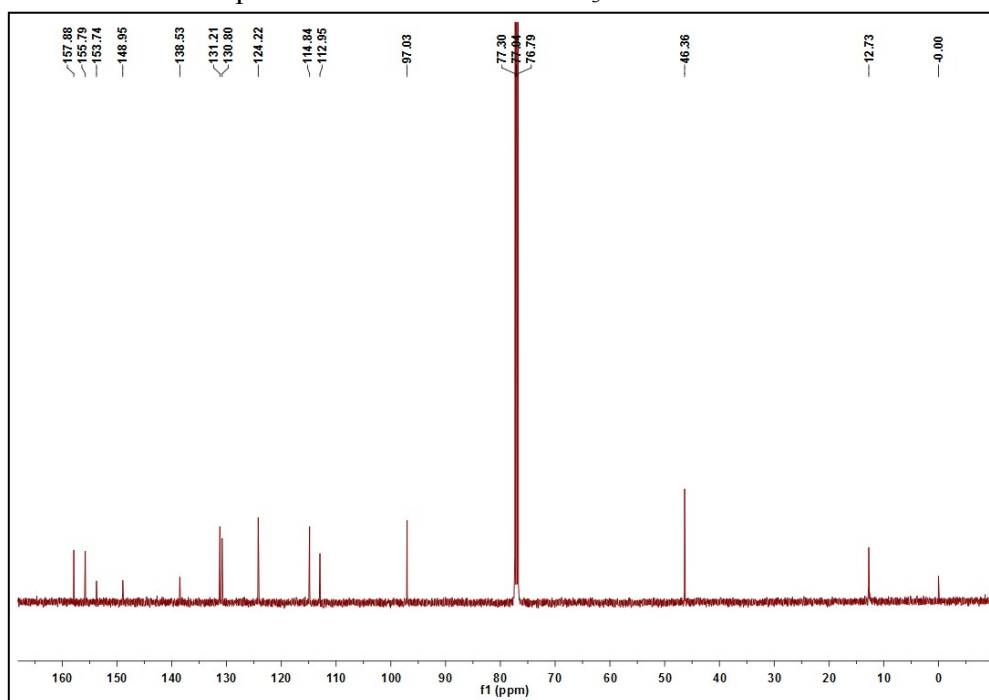
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**Figure S1.** Synthesis of **ARHB**.



**Figure S2.** <sup>1</sup>H NMR spectrum of **NRHB** in CDCl<sub>3</sub>.



**Figure S3.** <sup>13</sup>C NMR spectrum of **NRHB** in CDCl<sub>3</sub>.

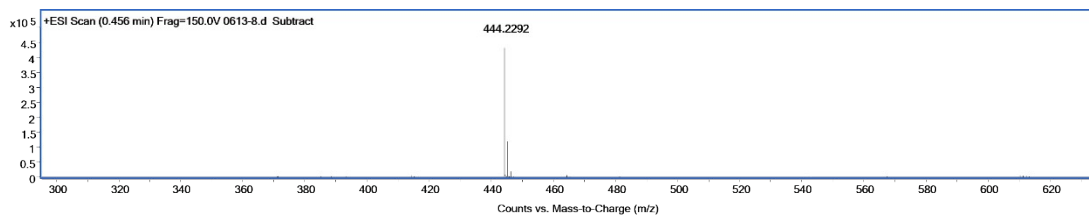


Figure S4. HRMS of NRHB.

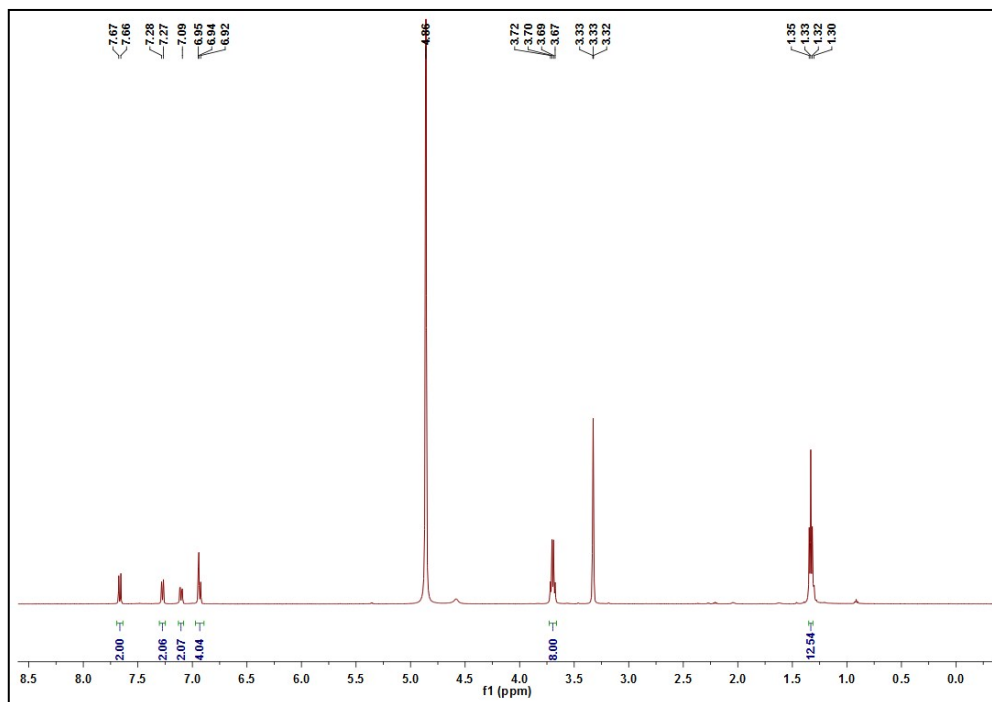


Figure S5. <sup>1</sup>H NMR spectrum of ARHB in MeOD.

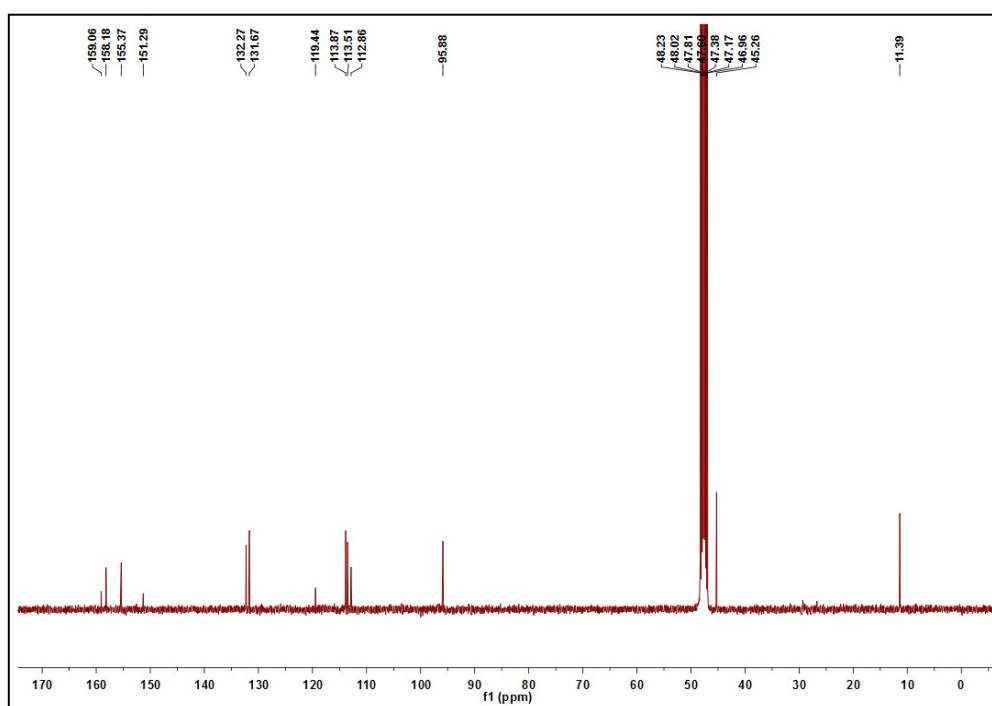
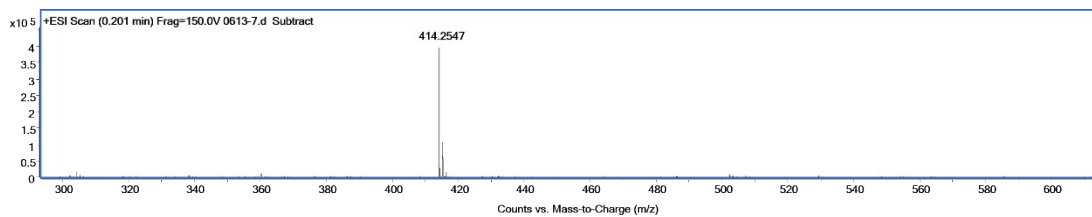
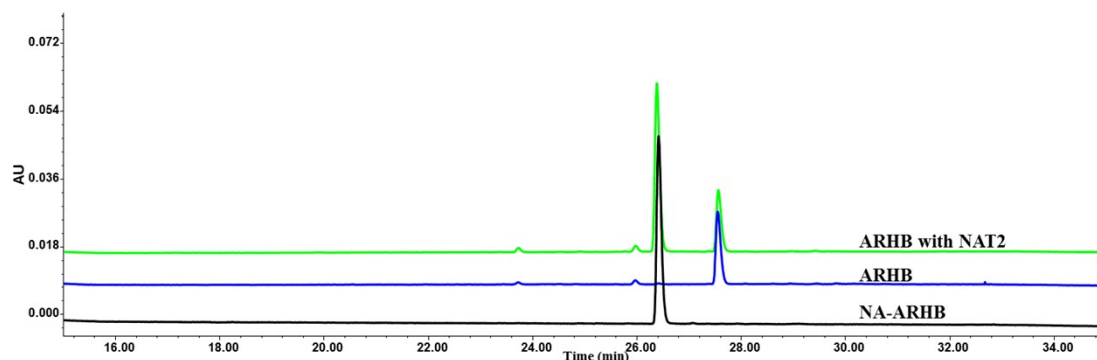


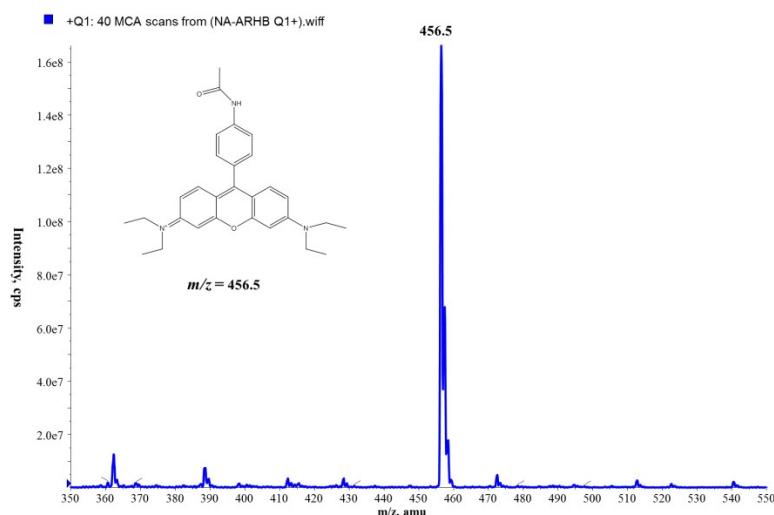
Figure S6. <sup>13</sup>C NMR spectrum of ARHB in MeOD.



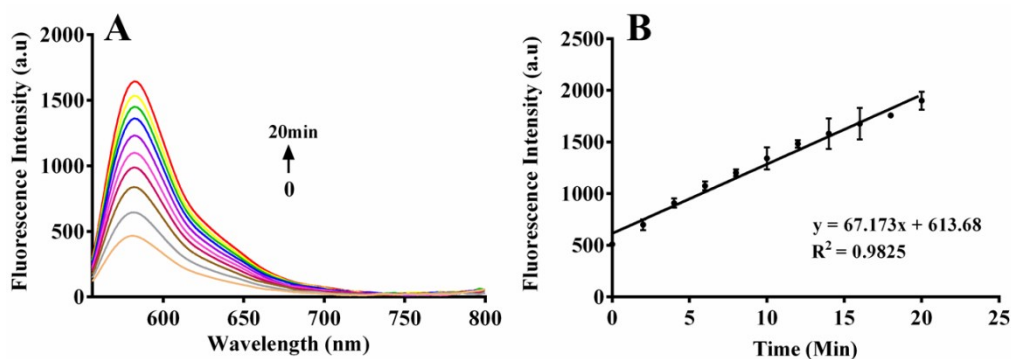
**Figure S7.** HRMS of ARHB.



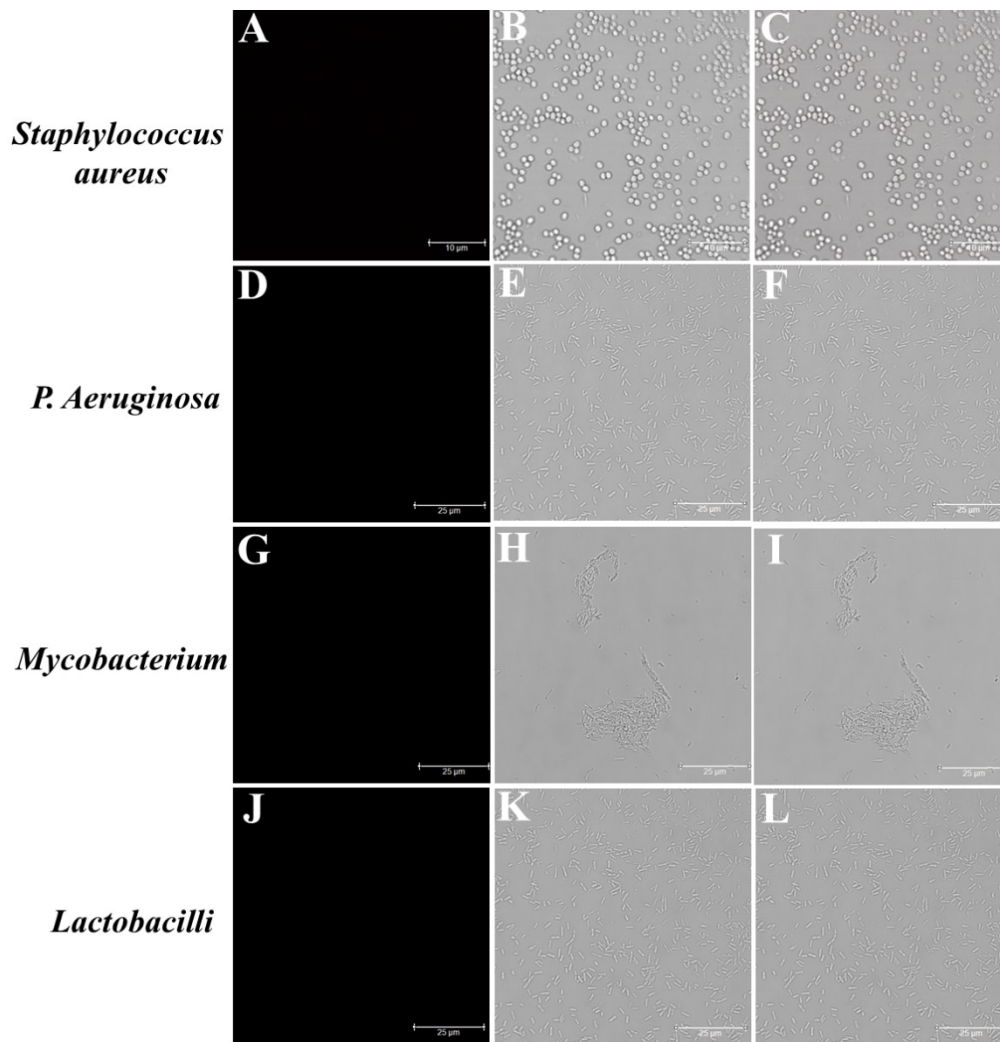
**Figure S8.** Representative HPLC chromatograms of ARHB (50 μM) incubation with NAT2 at 37 °C, UV detector was set at 580 nm.



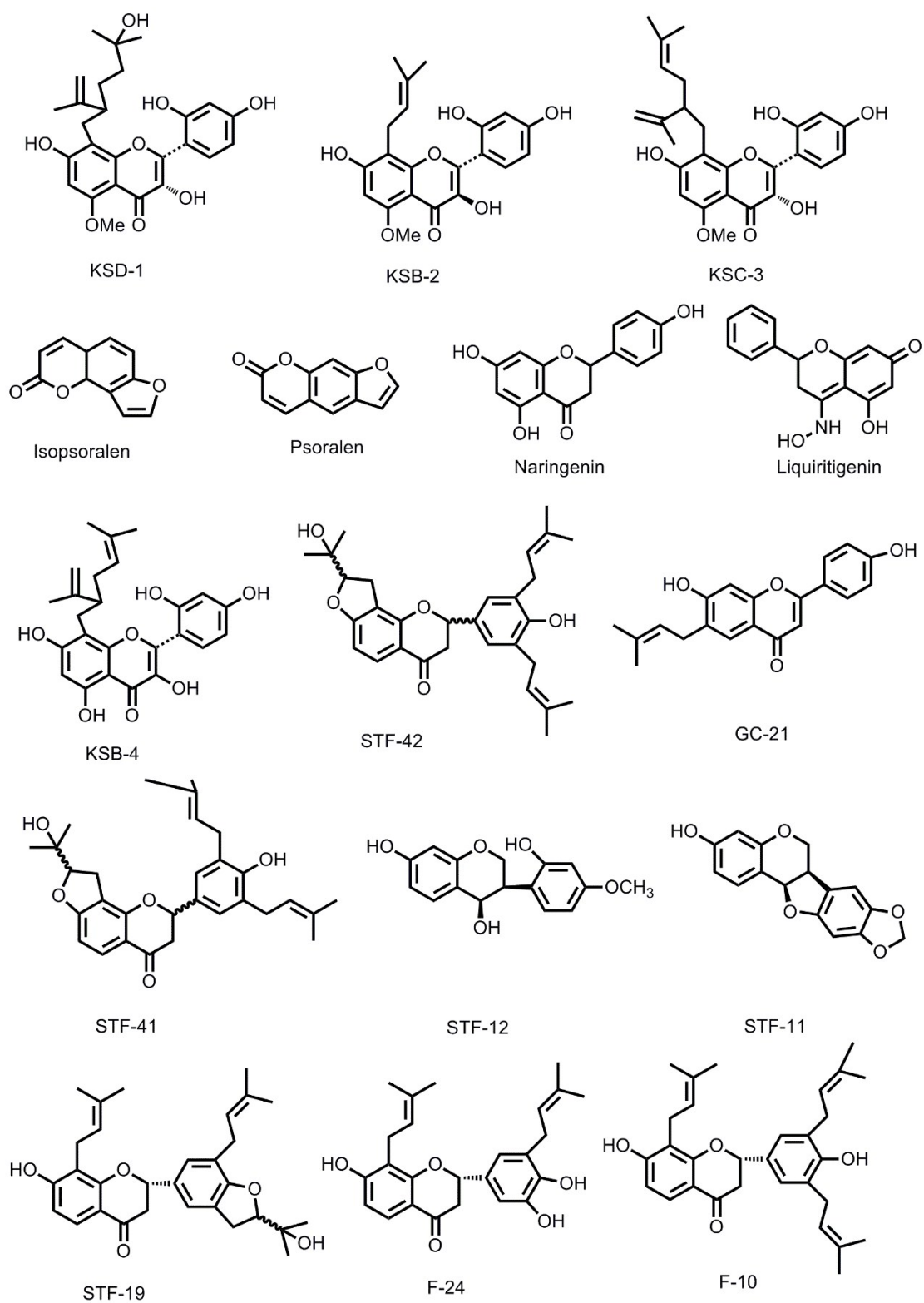
**Figure S9.** The mass spectrum of NA-ARHB as a reaction product of ARHB by NAT2.



**Figure S10.** The linear relationship between fluorescence intensity and time (0 - 20 min).  $\lambda_{ex} = 530$  nm.



**Figure S11.** Fluorescence background of different bacterial strains. (A, D, G, J) Fluorescence fields; (B, E, H, K) Bright fields; (C, F, I, L) the merge of fluorescence and bright fields.



**Figure S12.** The structure of 16 natural compounds.