

Supporting Information

Elevation of piezo-photocatalytic activity and cyclic stability via flexible

PVDF@Bi₂MoO₆/BiOBr composite foams

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Results and discussion

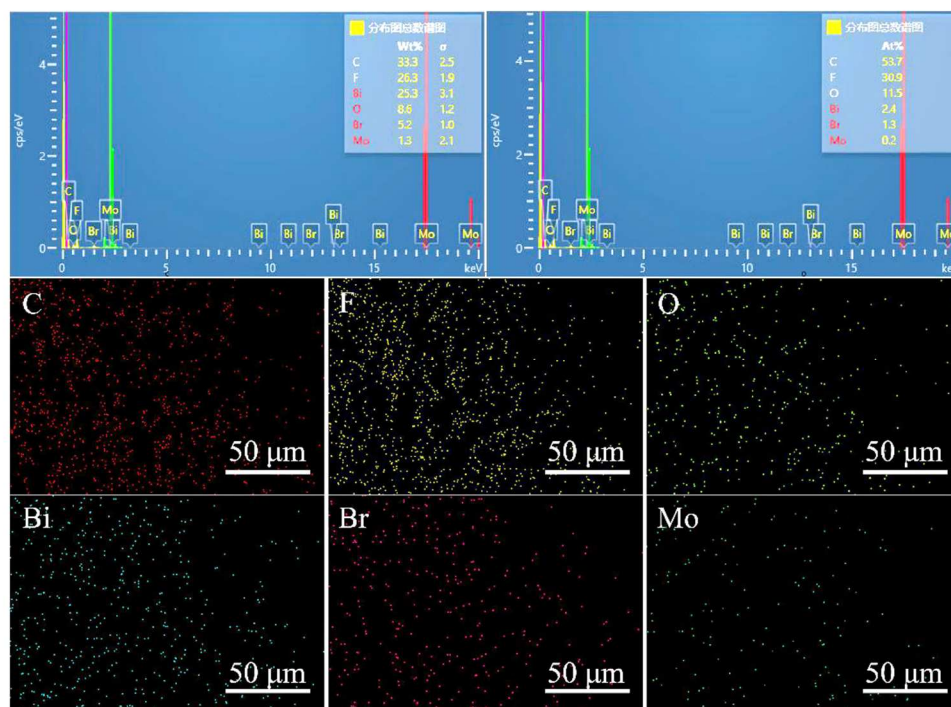


Figure. S1. EDS spectra of 15wt%-PVDF@BMOBB porous foams.

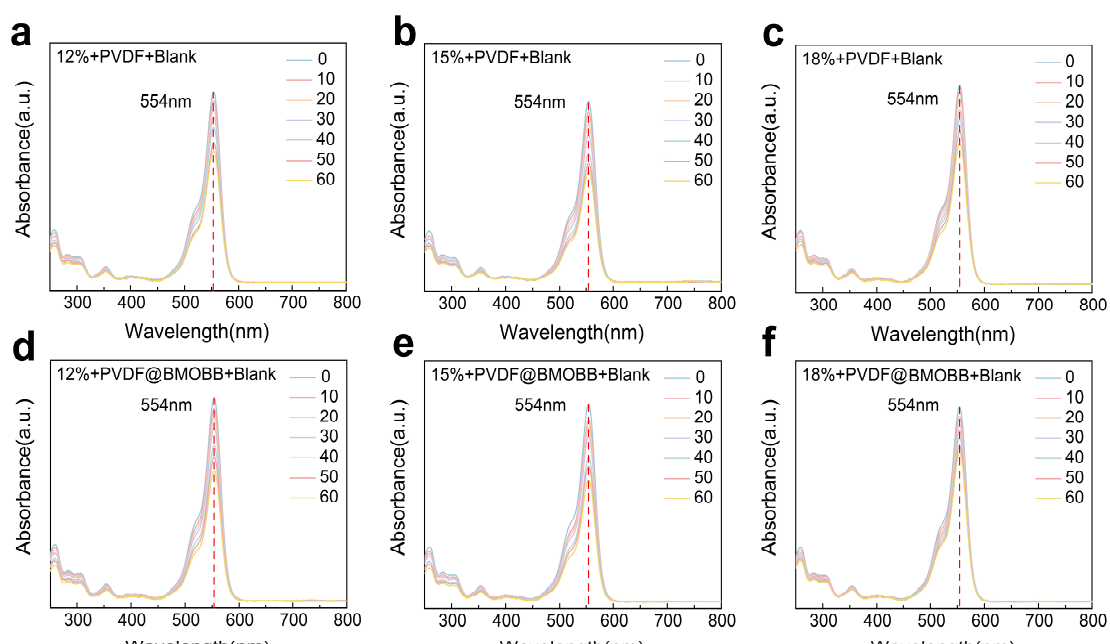


Figure. S2. UV-vis absorption spectra of Rhb by pure PVDF and composite porous foams: (a) 12wt%-PVDF, (b) 15wt%-PVDF, (c) 18wt%-PVDF, (d) 12wt%-PVDF@BMOBB, (e) 15wt%-PVDF@BMOBB, (f) 18wt%-PVDF@BMOBB.

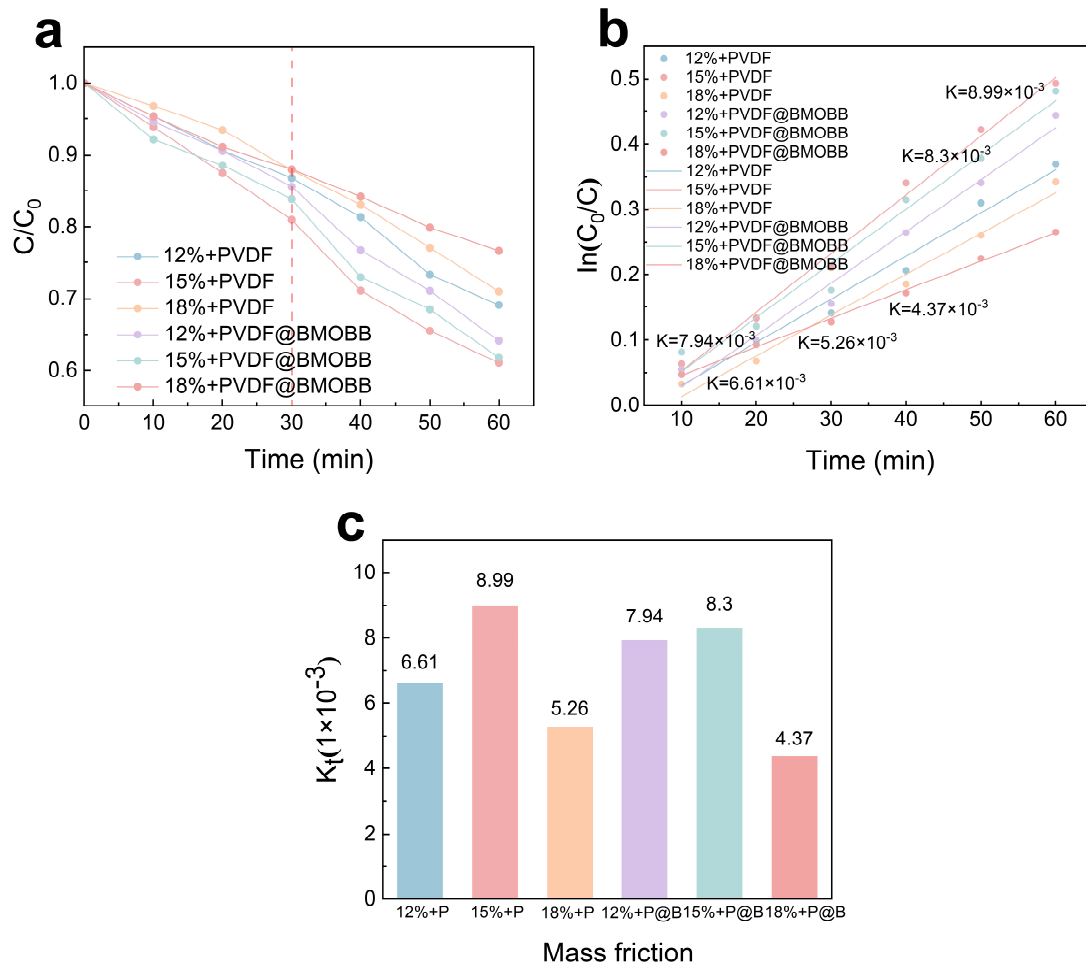


Figure. S3 First-order kinetics plots of pure PVDF and its composite PVDF@BMOBB porous foams: (a) Absorption performance plot, (b, c) Reaction rate plots. (P refers to PVDF, P@B refers to PVDF@BMOBB)

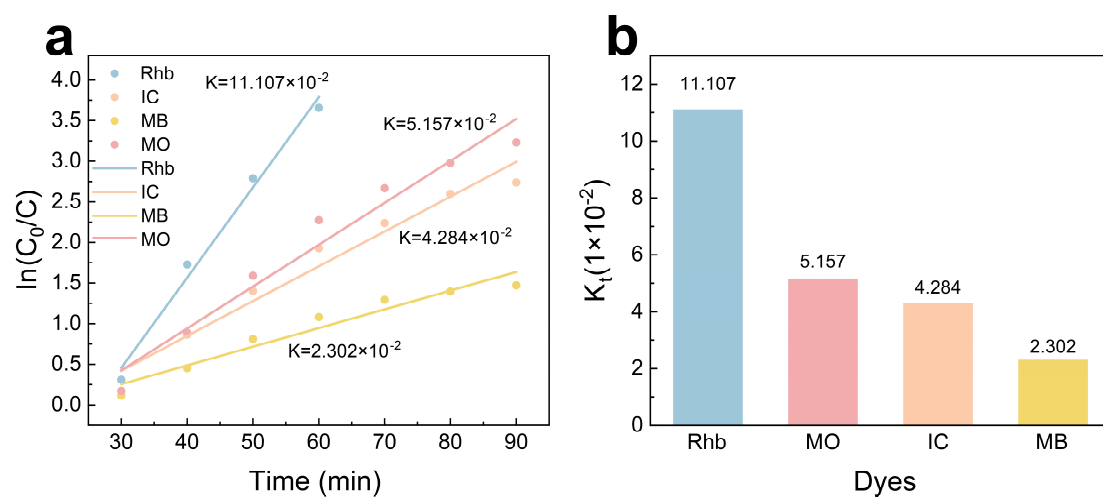


Figure. S4 The piezo-photocatalytic rates of different dyes (RhB,MO,IC and MB).

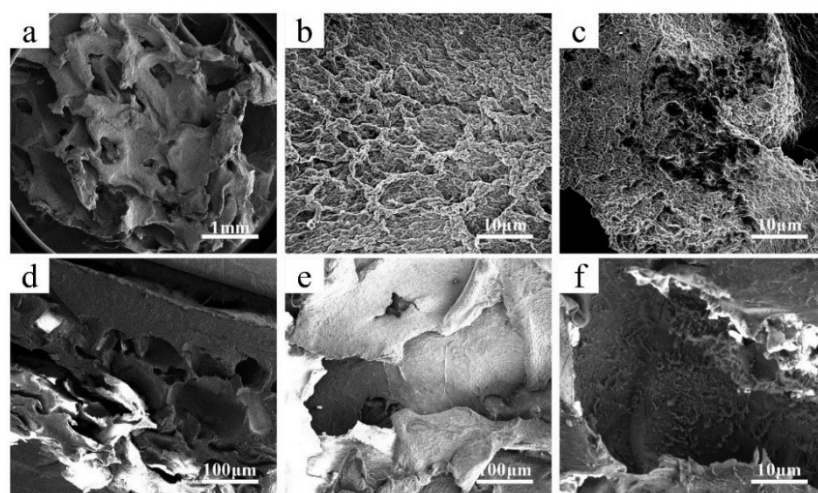


Figure. S5 SEM images after piezo-photocatalytic test of 15wt%-PVDF@BMOBB porous foam: (a-c) Planar graph; (d-f) Cross-section diagram.

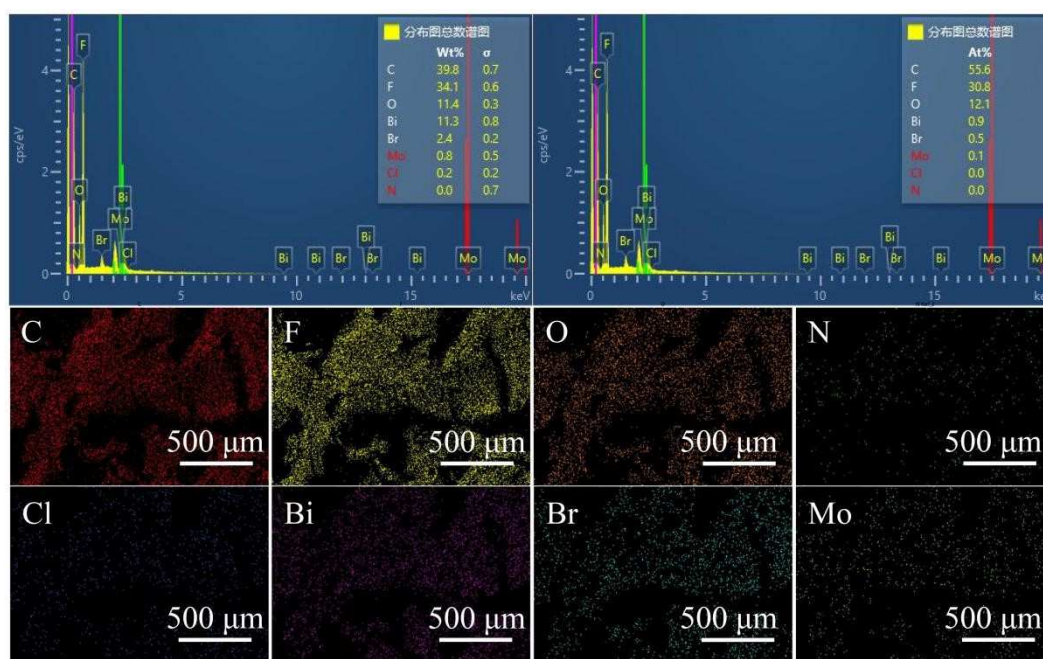


Figure. S6 15wt%-PVDF@BMOBB EDS energy spectra of porous foams after piezo-photocatalytic test

Table S1. Comparison between this work and previously reported

Compositions	Preparation method	Dye concentration	Efficiency	Cycling performance
PVDF/CQDs-TiO ₂ @CQDs ¹	phase inversion	Rhb,20mg/L 25mL	100 min, 95.26%	88.27% after 10 times
PANI/PVDF-HFP ²	phase inversion	Mo,20mg/L	60 min, 91.2%	about 80% after 3 times
MoS ₂ /Bi ₄ O ₅ Br ₂ /PVDF-HFP ³	phase inversion	Rhb,10mg/L	60 min, 98.9%	96.77% after 10 times
α -Fe ₂ O ₃ -PVDF ⁴	electrospinning	MB,1mg/L, 20mL	60 min, 99.5%	88.8% after 5 times
BNT/PVDF ⁵	electrospinning	Rhb,50mg/L, 50mL	180 min, 90.8%	more than 90% after 5 times
MoSe ₂ /PVDF ⁶	casting	Rhb,20mg/L	60 min, 99.1%	about 90% after 5 times
Au/Bi ₂ WO ₆ /PVDF ⁷	phase separation	Rhb,10mg/L, 80mL	60 min, 98.1%	about 80% after 5 times
ZnO/PVDF-HFP ⁸	RF sputtering	MO, 5 mg/L, 40 mL	75 min, 95%	about 90% after 5 times
Our work	casting	Rhb, 15 mg/L, 100 mL	60 min,98.1%	exceeded 80% after 50 times, 68.25% after 100 times

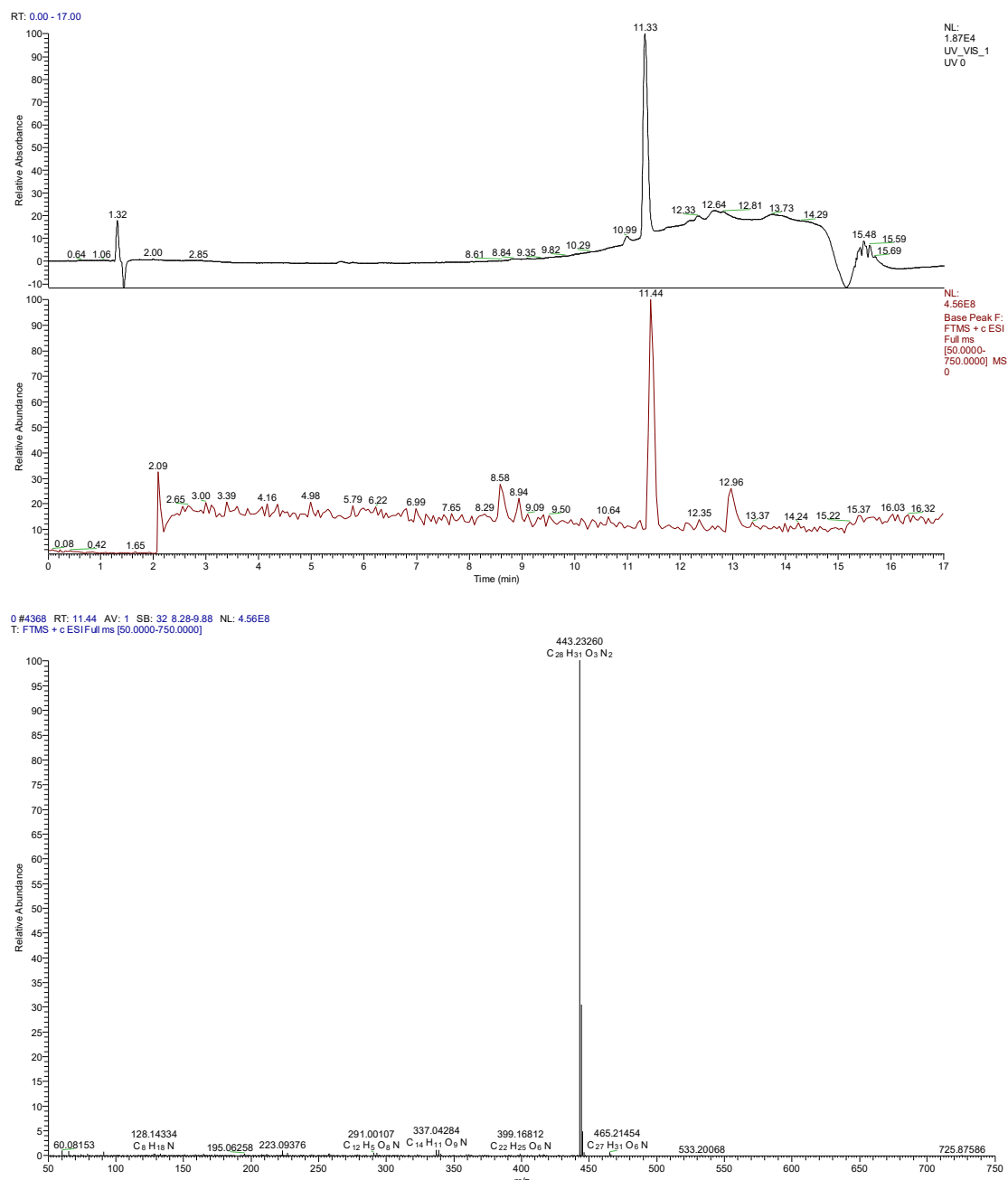


Figure S7. LC-MS analysis of RhB solution before degradation.

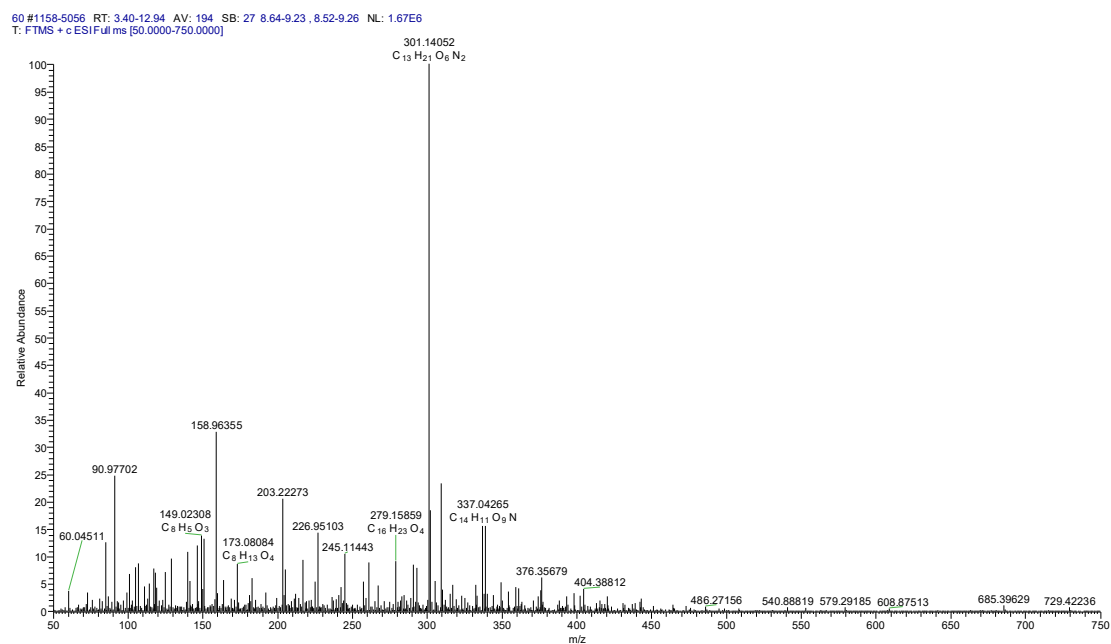
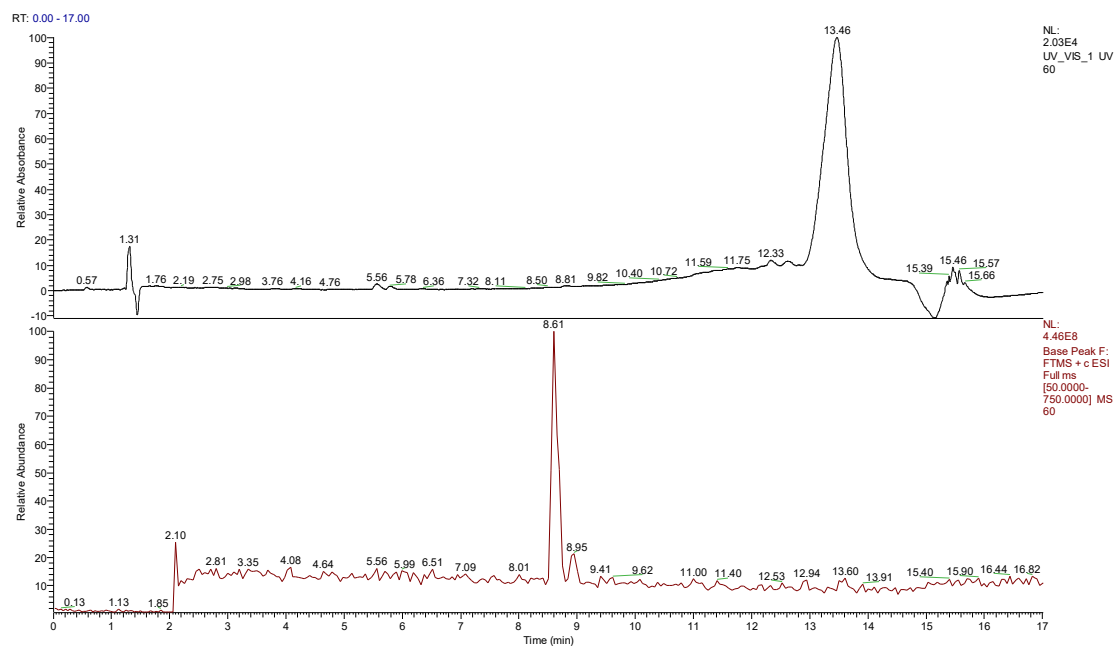


Figure S8. LC-MS analysis of RhB solution after degradation for 60 mins.

References:

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