

Supporting Information

Removal of Highly Dispersive Microspheres from Wastewater Using Modified Spirulina and Their Application in Flame Retardancy

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1. Supplementary Table

Table S1. EDS spectrum of PTFE and PTFE/PSAN

Element Specimens	C element mass (wt%)	N element mass (wt%)	F element mass (wt%)
PTFE	45.30	0	54.70
PTFE/PSAN	78.82	6.45	14.71

Table S2. demulsification time

Samples	H ₂ SO ₄	Spirulina	STP10	STP20	STP30	STP40	STP50
Demulsification Time	180 s	no	10 s	10 s	10 s	15 s	15 s

2. Supplementary Figures

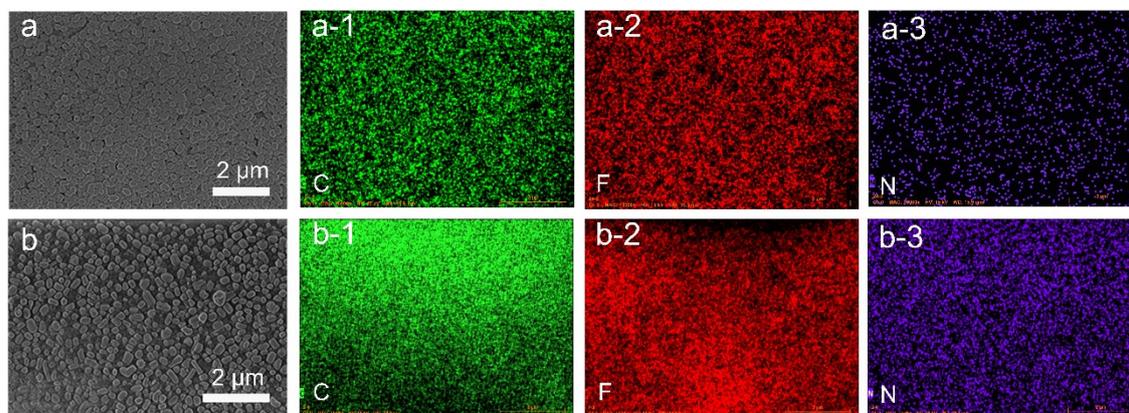


Figure S1. (a) SEM elemental mapping images of PTFE and (b) SEM elemental mapping images of PTFE/PSAN.

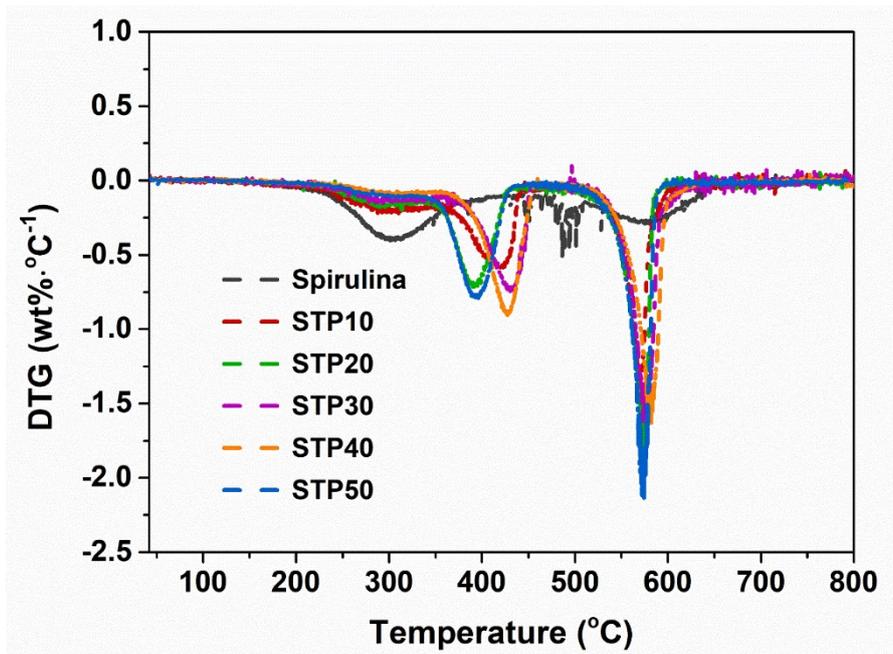


Figure S2. DTG curves of spirulina, STP10, STP20, STP30, STP40 and STP50

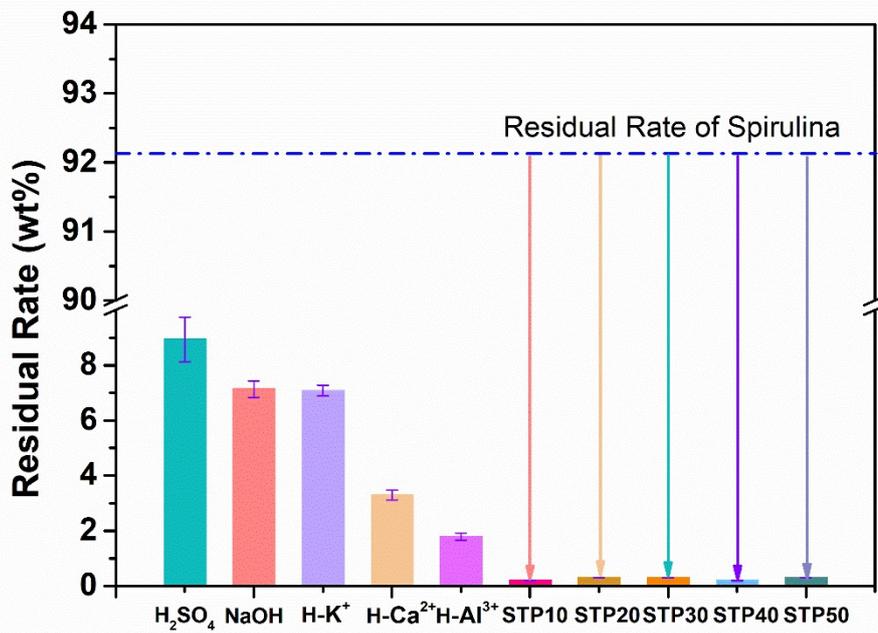


Figure S3. residual rate of Control, SP, STP10, STP20, STP30, STP40 and STP50

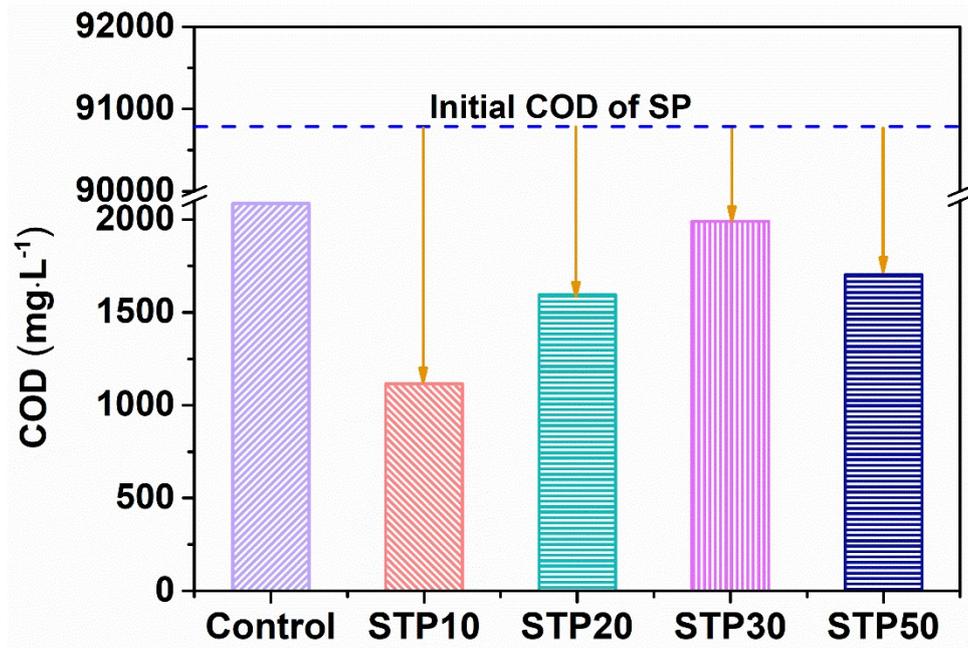


Figure S4. COD removal of upper residual liquid of Control, SP, STP10, STP20, STP30 and STP50

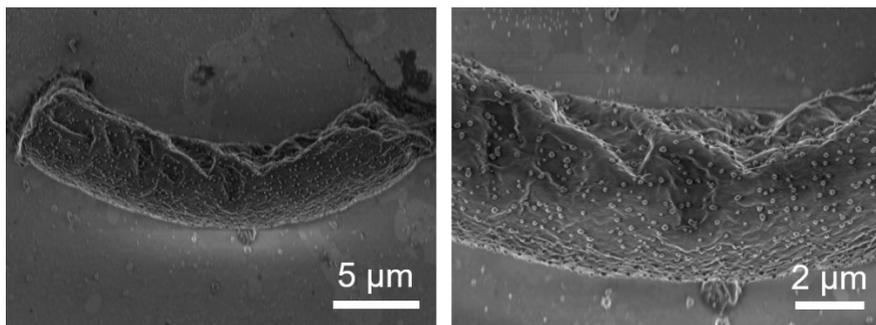


Figure S5. surface image of SP

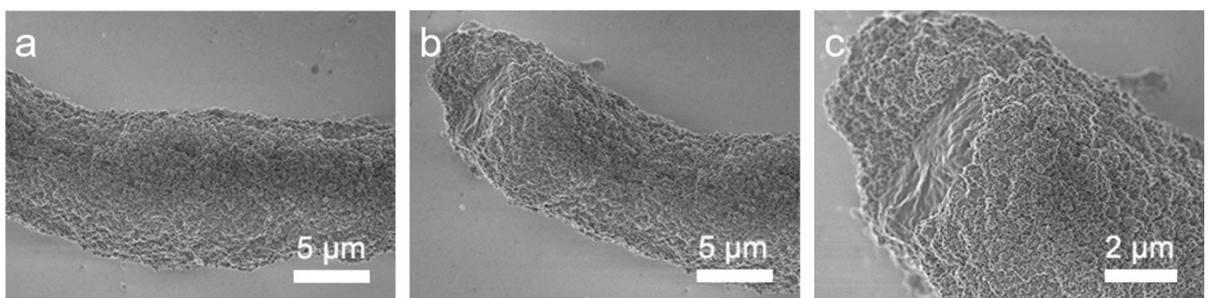


Figure S6. surface image of STP40

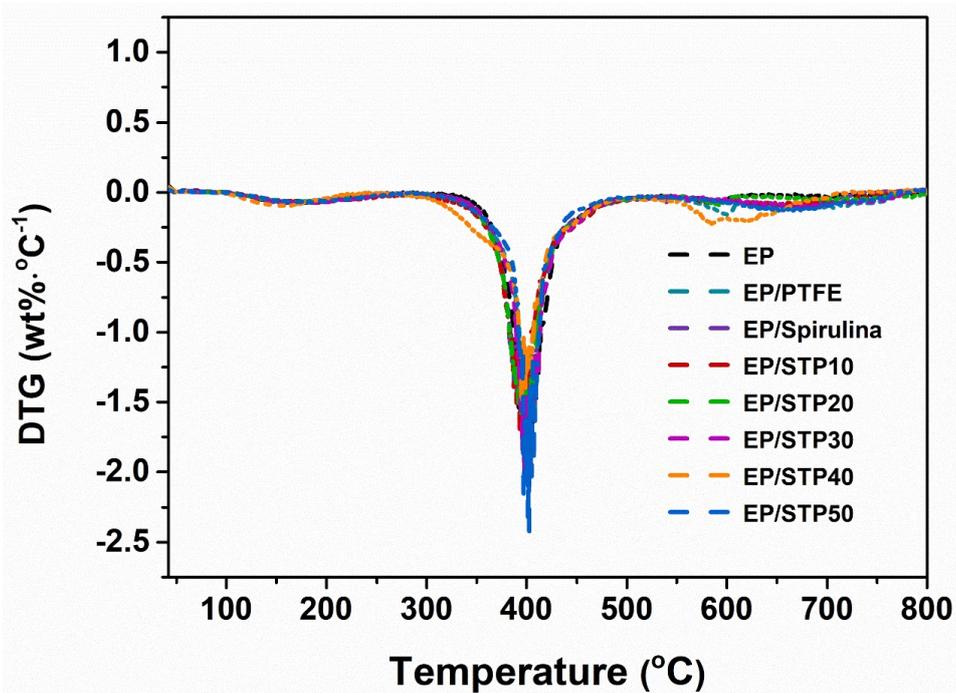


Figure S7. DTG curves of EP, EP/PTFE, EP/Spirulina, EP/STP10, EP/STP20, EP/STP30, EP/STP40 and EP/STP50

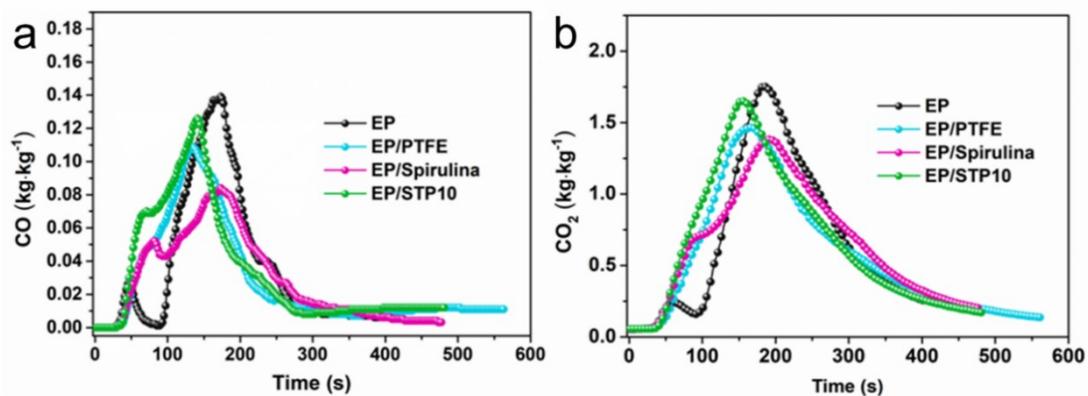


Figure S8. (a) CO production, (b) CO₂ production of EP, EP/PTFE, EP/Spirulina, EP/STP10 and the controls as a function of the burning time

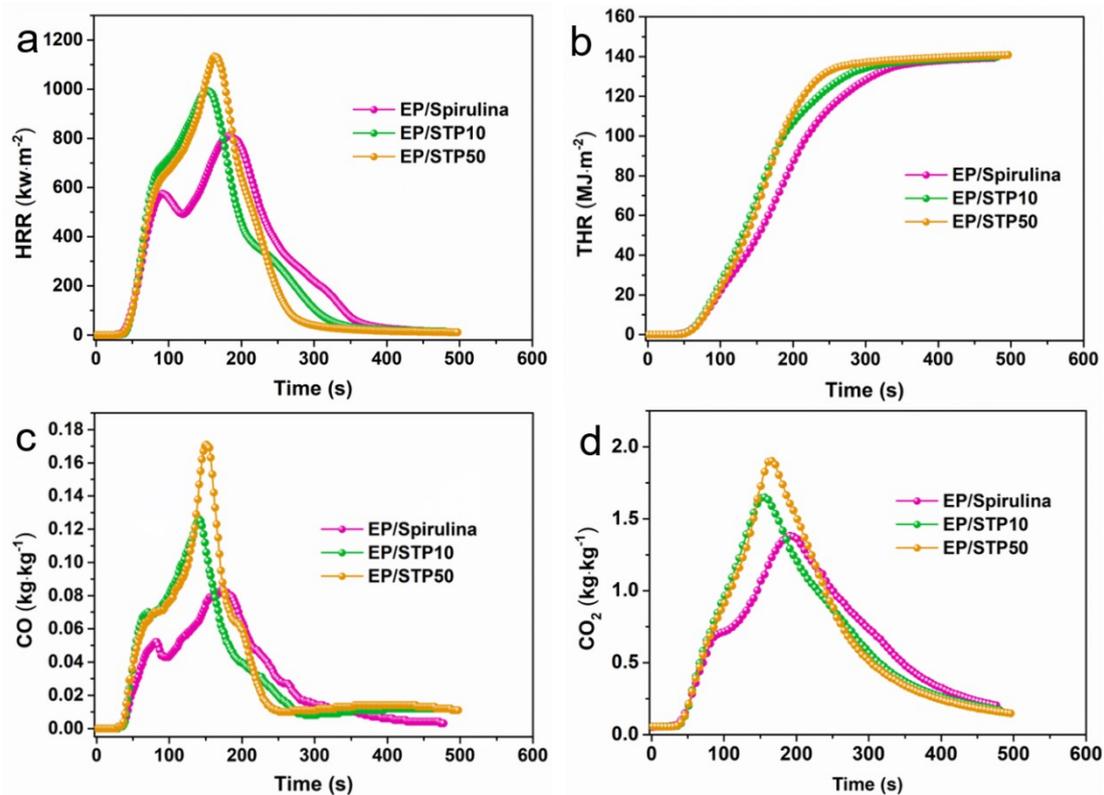


Figure S9. (a) HRRs, (b) THR, (c) CO production, (d) CO₂ production of EP/Spirulina, EP/STP10, EP/STP50 and the controls as a function of the burning time

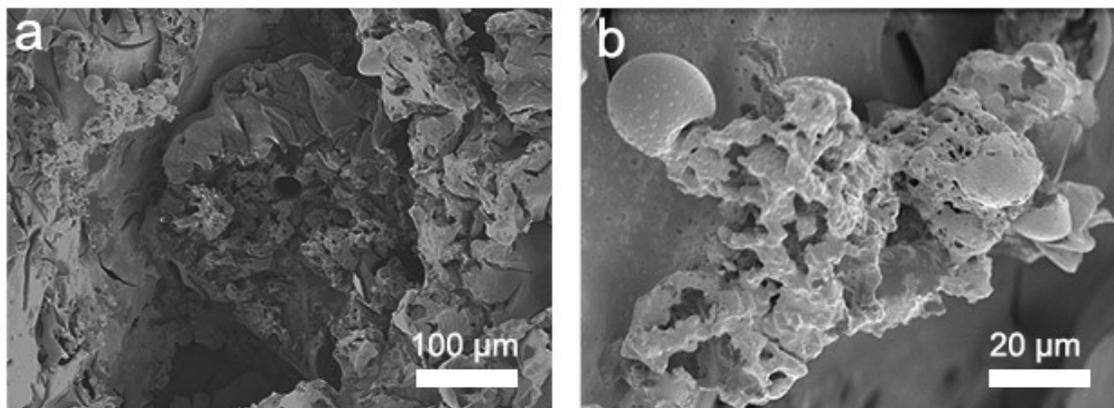


Figure S10. SEM images of EP/STP50 residues after cone calorimeter tests