Supplementary Information

Brewing Plastics: OCT Reveals Microplastics Release from Nylon Tea Bags in Simulated Brewed Tea Infusions

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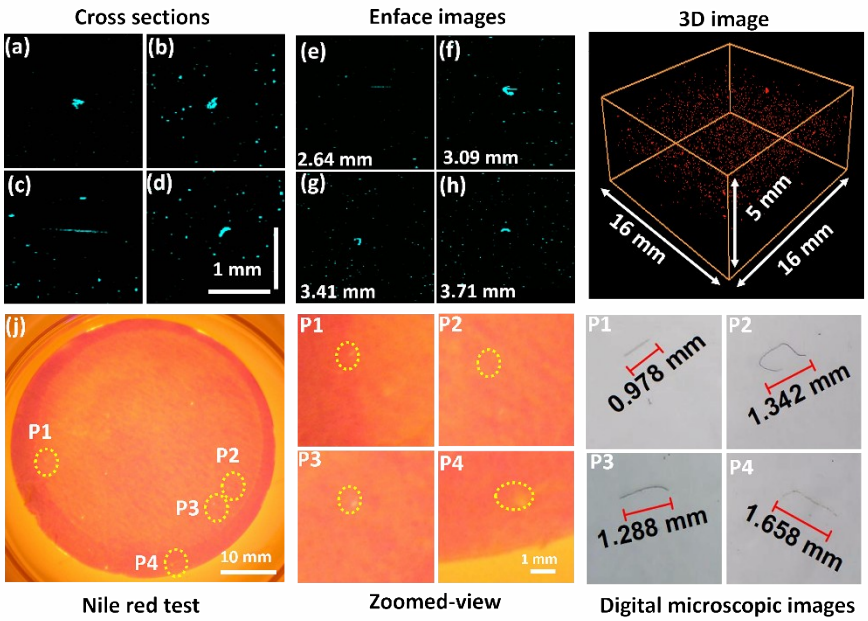
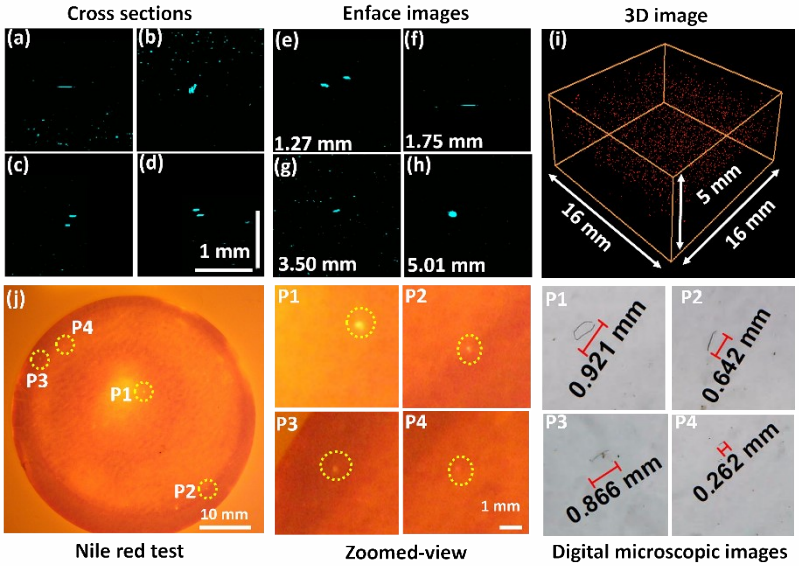


Figure S1: Detection of microplastics using OCT, Nile red staining, and digital microscopic imaging after steeping the tea bag for 1 minutes. ((a–d) inset images) OCT cross-sections with representative microplastics. ((e–h) inset images) Enface OCT images at 4 depths. (i) 3D visualisation of microplastics. (j) Sample after Nile red staining, indicating fluorescent microplastics at positions P1, P2, P3 and P4. The zoomed view shows a more precise visualisation of P1, P2, P3, and P4 and digital



microscopic images for the microplastics corresponding to fluorescent particles.

Figure S2 Detection of microplastics using OCT, Nile red staining, and digital microscopic imaging after steeping the tea bag for 3 minutes. ((a–d) inset images) OCT cross-sections with representative microplastics. ((e–h) inset images) Enface OCT images at 4 depths. (i) 3D visualisation of

microplastics. (j) Sample after Nile red staining, indicating fluorescent microplastics at positions P1, P2, P3 and P4. The zoomed view shows a more precise visualisation of P1, P2, P3, and P4 and digital microscopic images for the microplastics corresponding to fluorescent particles.

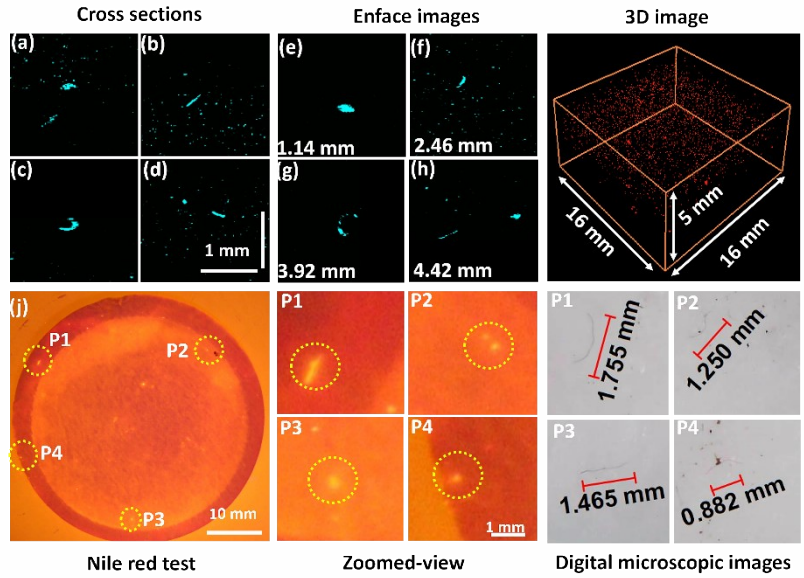


Figure S3: Detection of microplastics using OCT, Nile red staining, and digital microscopic imaging after steeping the tea bag for 5 minutes. ((a–d) inset images) OCT cross-sections with representative microplastics. ((e–h) inset images) Enface OCT images at 4 depths. (i) 3D visualisation of microplastics. (j) Sample after Nile red staining, indicating fluorescent microplastics at positions P1, P2, P3 and P4. The zoomed view shows a more precise visualisation of P1, P2, P3, and P4 and digital microscopic images for the microplastics corresponding to fluorescent particles.

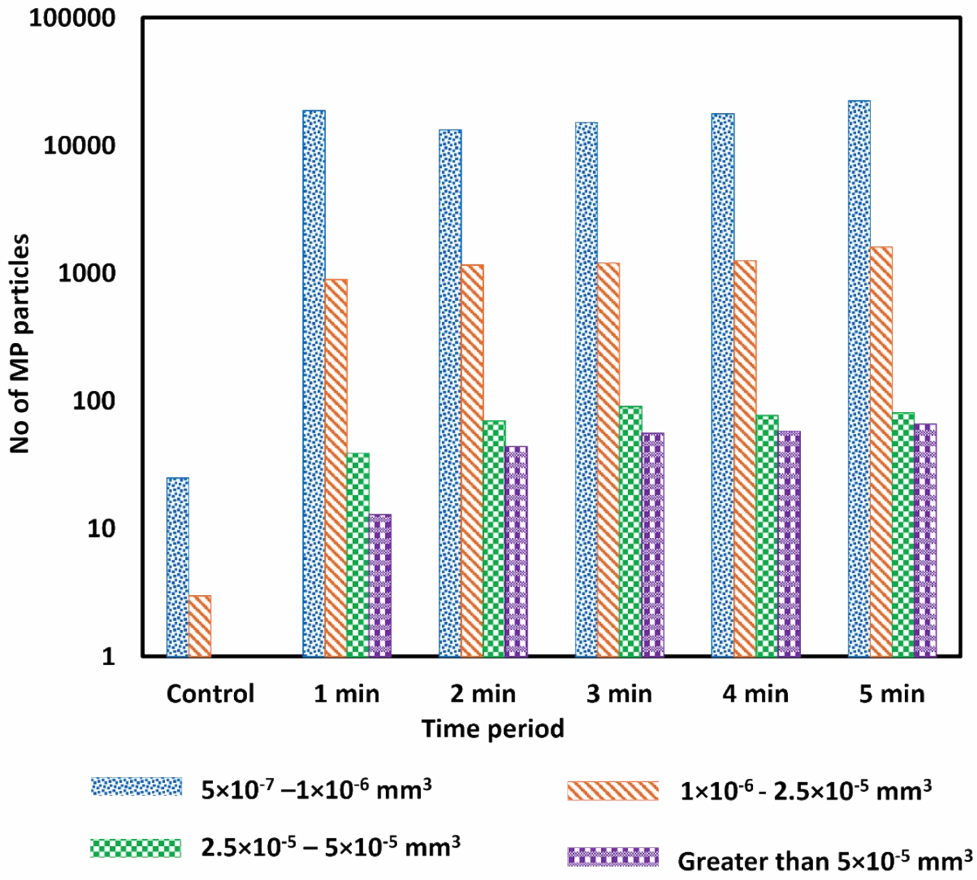


Figure S4 Microplastic (MP) particle counts released from nylon tea bags at different steeping times (1–5 minutes), categorised by 4 volume ranges

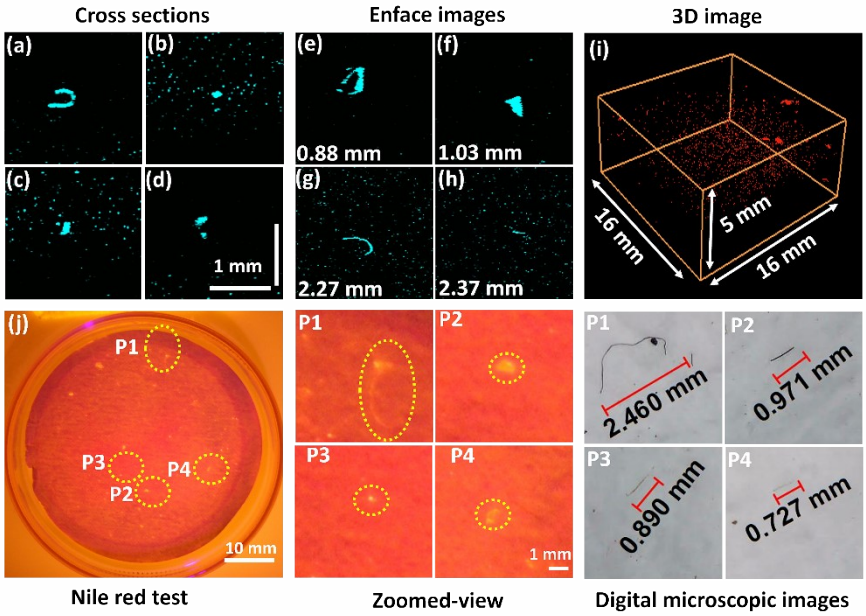


Figure S5 Detection of microplastics using OCT, Nile red staining, and digital microscopic imaging after steeping the tea bag at 2 °C. (a–d) OCT cross-sections with representative MPs. (e–h) Enface OCT images at 4 depths. (i) 3D visualisation of MPs. (j) Sample after Nile red staining, indicating

fluorescent microplastics at positions P1, P2, P3, and P4. The zoomed view shows a more precise visualisation of P1, P2, P3, and P4 and digital microscopic images of the MPs corresponding to fluorescent particles.

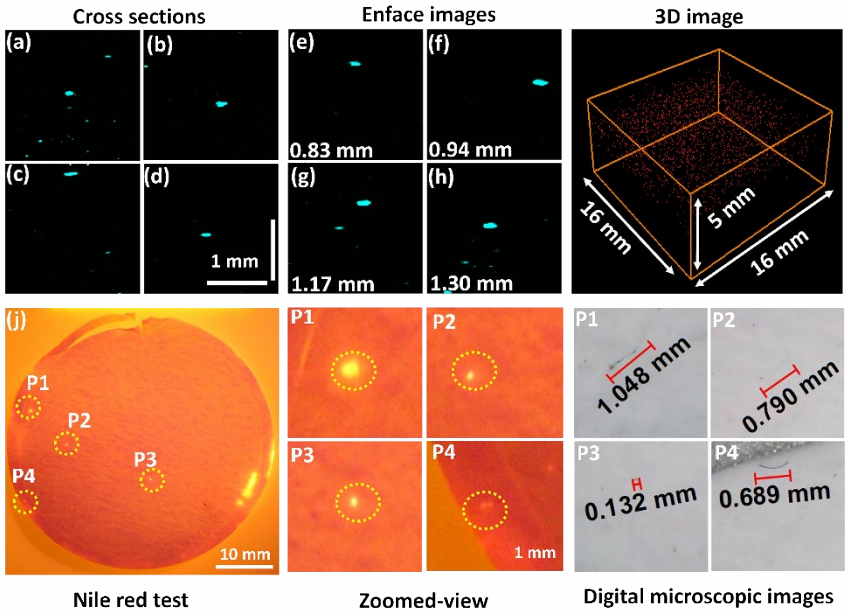


Figure S6 Detection of microplastics using OCT, Nile red staining, and digital microscopic imaging after steeping the tea bag at 30 °C. (a–d) OCT cross-sections with representative microplastics. (e–h) Enface OCT images at 4 depths. (i) 3D visualisation of MPs. (j) Sample after Nile red staining, indicating fluorescent microplastics at positions P1, P2, P3, and P4. The zoomed view shows a more precise visualisation of P1, P2, P3, and P4, and digital microscopic images of the microplastics corresponding to fluorescent particles.

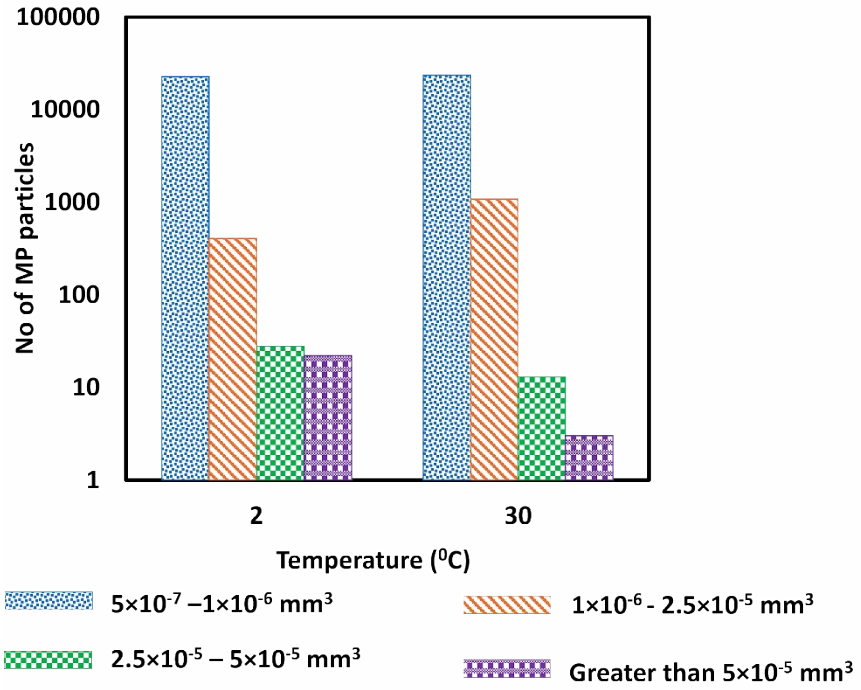


Figure S7 Microplastic (MP) particle counts released from nylon tea bags at cold brewing, categorised by 4 volume ranges