

Supplementary data

Preparation and Evaluation of *Undaria pinnatifida* Nanocellulose in Fabricating Pickering Emulsions for Protection of Astaxanthin

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Table S1. Yield, length, diameter and aspect ratio of U-cellulose, CNFs and TOCNFs.

Sample	U-cellulose	CNFs	TOCNFs
Yield (%)	56.80 ± 7.42 ^{ab}	54.33 ± 6.03 ^b	68.16 ± 4.43 ^a
Average length (nm)	-	1036.95 ± 111.89 ^a	773.52 ± 91.81 ^b
Average diameter (nm)	47.01 ± 11.85 ^a	26.22 ± 5.02 ^b	13.52 ± 3.30 ^b
Aspect ratio	-	39.98 ± 3.45 ^b	56.79 ± 8.59 ^a

Different superscript letters represent significant difference ($p < 0.05$).

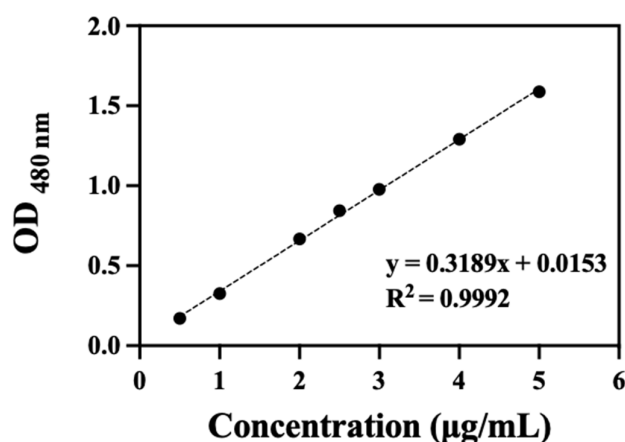


Figure S1. The standard curve of AXT.

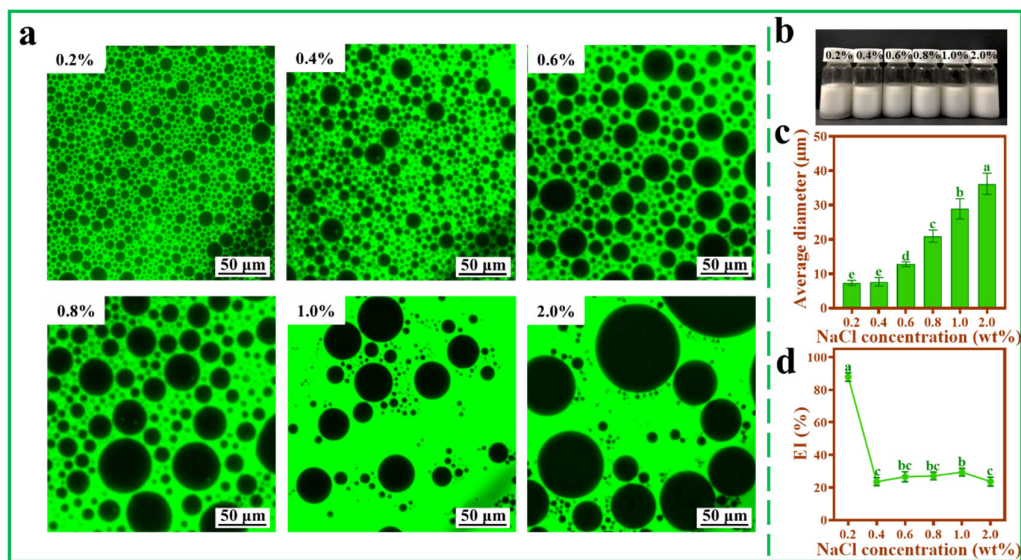


Figure S2. Inverted fluorescence microscopy images (a), photograph (b), average diameter (c) and EI% (d) of Pickering emulsions at different NaCl concentrations (0.20 wt%, 0.40 wt%, 0.60 wt%, 0.80 wt%, 1.0 wt% and 2.0 wt%; $\omega_{(TOCNFs)}$ = 0.9 wt%, pH = 4, 450 W).



Figure S3. Photographs of AXT-loaded Pickering emulsions stored for 1 day, 7 days and 14 days.