Electronic Supplementary Information for:

**Microencapsulated UV filter@ZIF-8 based sunscreens for broad spectrum UV protection**

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**Figure S1:** BET adsorption isotherms of ZIF-8, OMC@ZIF-8, BMDM@ZIF-8 and OMC+BMDM@ZIF-8.

**Figure S2:** Calibration curves of OMC and BMDM absorbance vs. concentration.

**Figure S3:** Degradation data for UV filters alone.

**Table ST1:** Pore parameters of ZIF-8 and microencapsulated UV filters.
Figure S1. BET adsorption isotherms of ZIF-8, OMC@ZIF-8, BMDM@ZIF-8 and OMC+BMDM@ZIF-8.
Figure S2. Calibration curves of (a) BMDM and (b) OMC used for determining encapsulation efficiency of OMC and BMDM in OMC@ZIF-8, BMDM@ZIF-8 and OMC+BMDM@ZIF-8.

Figure S3. Photostability curves of (a) 0.08% OMC and (b) 0.09% BMDM mixed with aveeno cream for studying the degradation rate of UV filters after 0, 2, 4 and 24 hours upon UV exposure.
**SUPPLEMENTARY TABLE**

**Table ST1.** Pore parameters of void ZIF-8 and microencapsulated OMC-ZIF-8, BMDM-ZIF-8 and OMC+BMDM-ZIF-8.

| Sample            | ZIF-8 | OMC@ZIF-8 | BMDM@ZIF-8 | OMC+BMDM@ZIF-8 |
|-------------------|-------|-----------|------------|----------------|
| \( S_{BET} \) (m\(^2\)/g) | 893   | 606       | 856        | 592            |
| \( S_{Lang} \) (m\(^2\)/g)  | 1344  | 908       | 1287       | 891            |
| Pore volume (cm\(^3\) g\(^{-1}\)) | 0.613 | 0.413     | 0.585      | 0.404          |
| Average pore width (nm)   | 2.75  | 2.73      | 2.73       | 2.73           |