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SUPPLEMENTARY INFORMATION

Bacteriophage Conjugated IRMOF-3 as a Novel Opto-Sensor for S. arlettae

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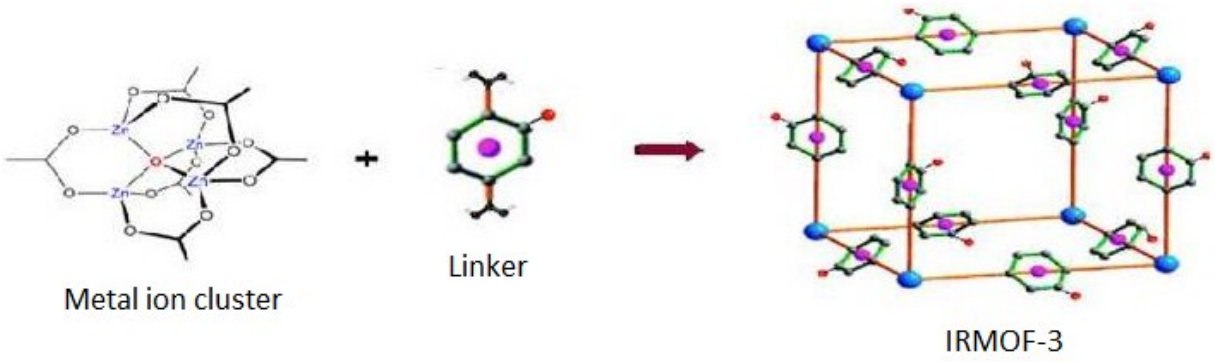

Fig. S1. Chemical structure of IRMOF-3

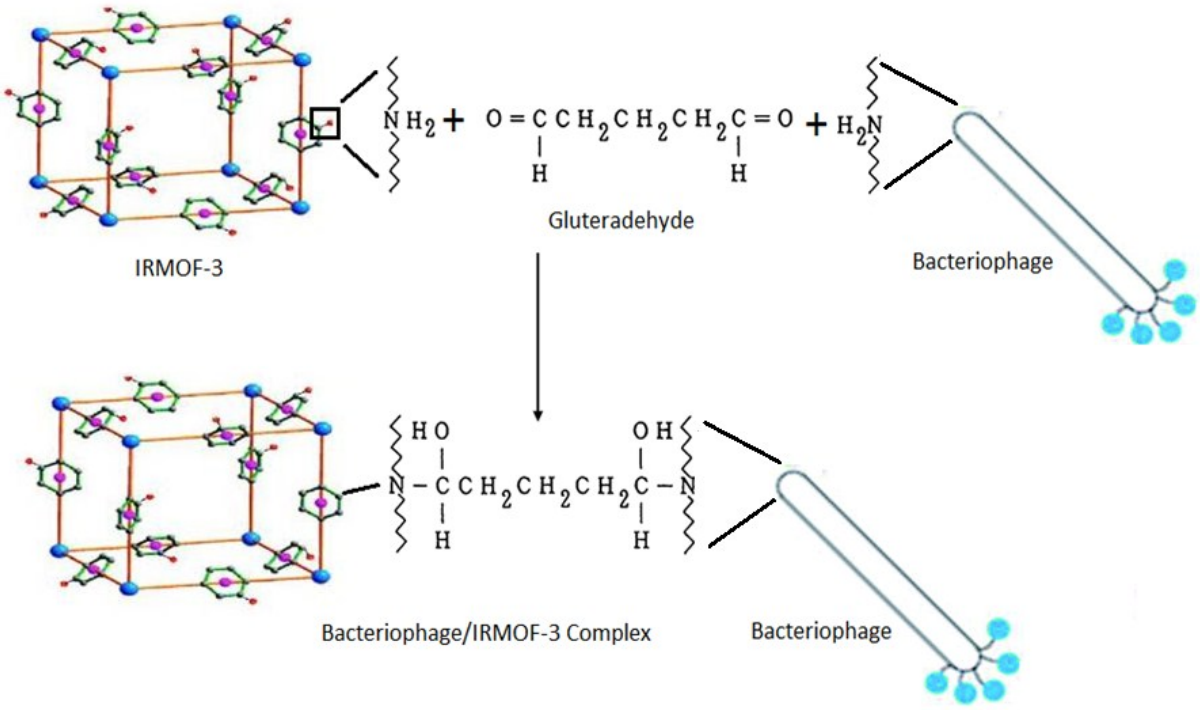

Fig. S2. Scheme for the bioconjugation of IRMOF-3 with bacteriophage

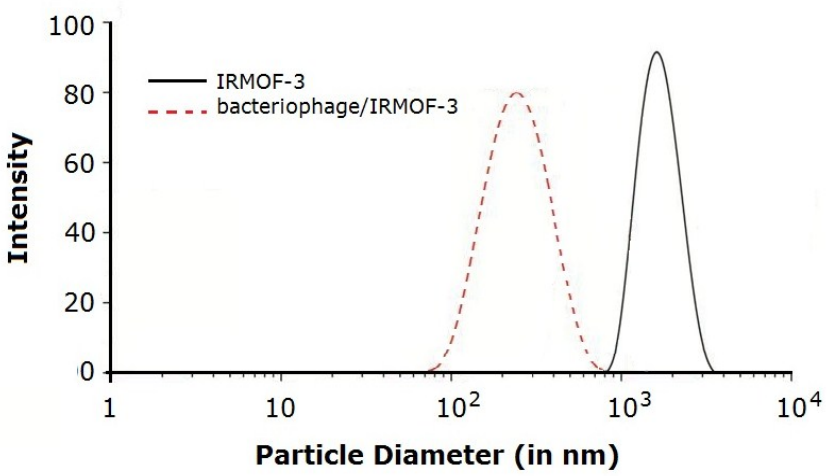

Fig. S3. Particle size distribution of IRMOF-3 and bacteriophage/IRMOF-3 complex

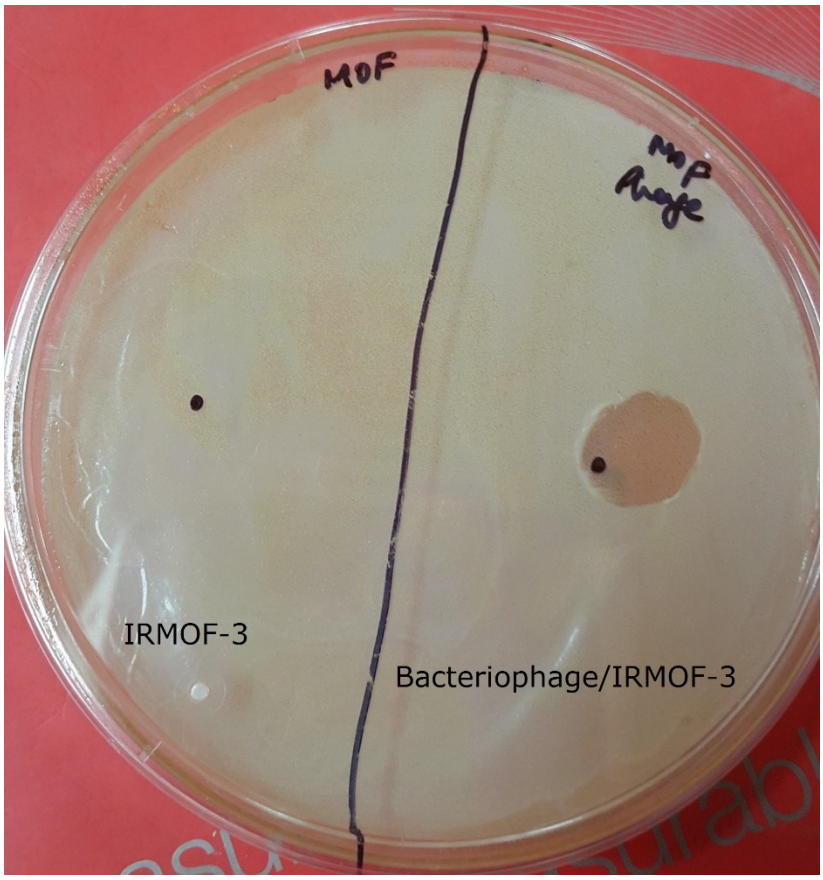

Fig. S4. Antimicrobial activity tests on IRMOF-3 and bacteriophage/IRMOF-3 complex. The positive antimicrobial activity of the bacteriophage/IRMOF-3 complex is a strong evidence of successful incorporation of bacteriophages with IRMOF-3. Note that the bacteriophage/IRMOF-3 complex was free from any unbound or loosely bound bacteriophage moieties as it was purified by washing thrice with Tris buffer before further use.

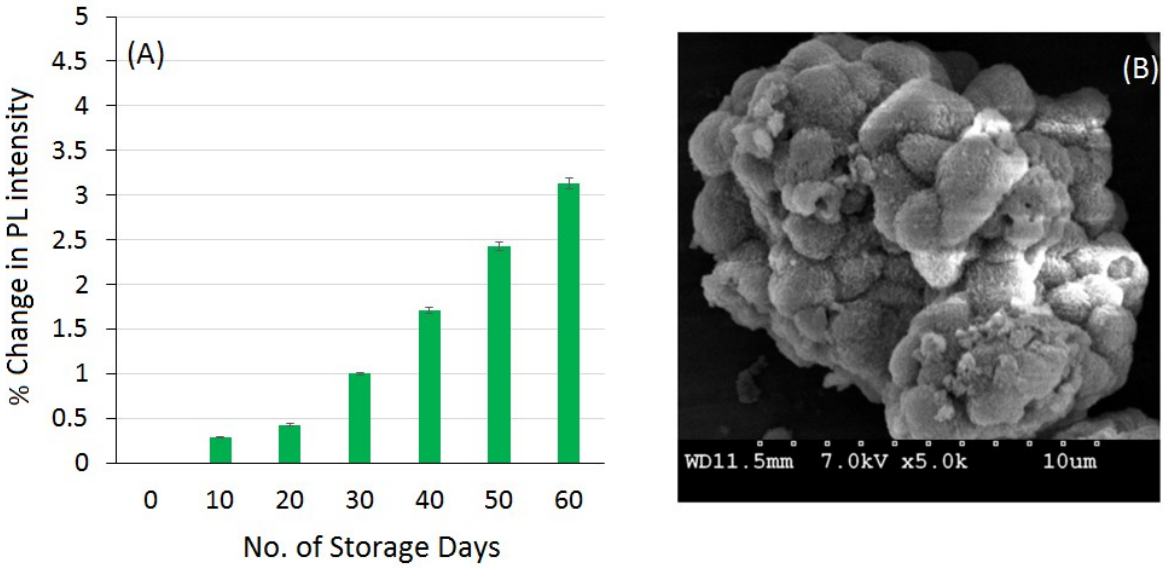

Fig. S5. (A) Response of the bacteriophage/IRMOF-3 sensor stored for prolonged durations; [*S. arlettae*] = 10^2 cfu/mL: (B) FE-SEM imaging of the bacteriophage/IRMOF-3 complex to assess the stability of its crystalline nature

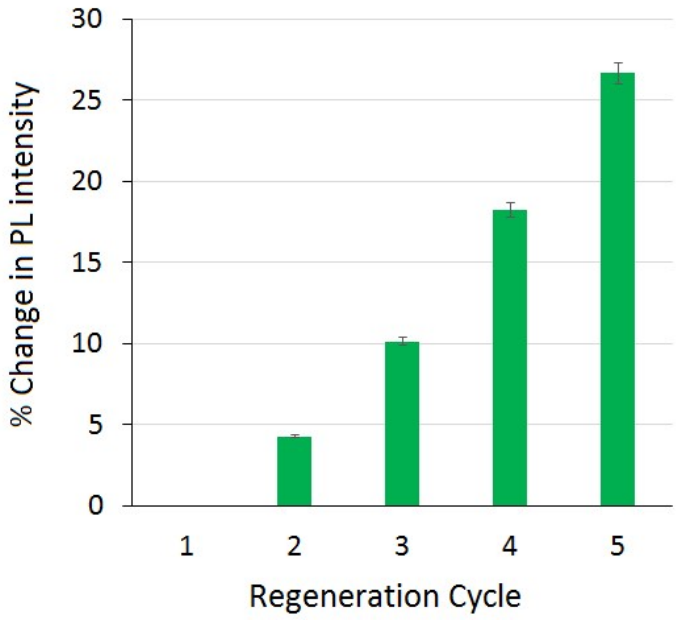

Fig. S6. Percentage variation in the PL response of the bacteriophage/IRMOF-3 sensor during successive regeneration cycles; [*S. arlettae*] = 10^2 cfu/mL