

Supplementary Information

Jolly Green MOF: Confinement and Photoactivation of Photosystem I in the Metal Organic Framework ZIF-8

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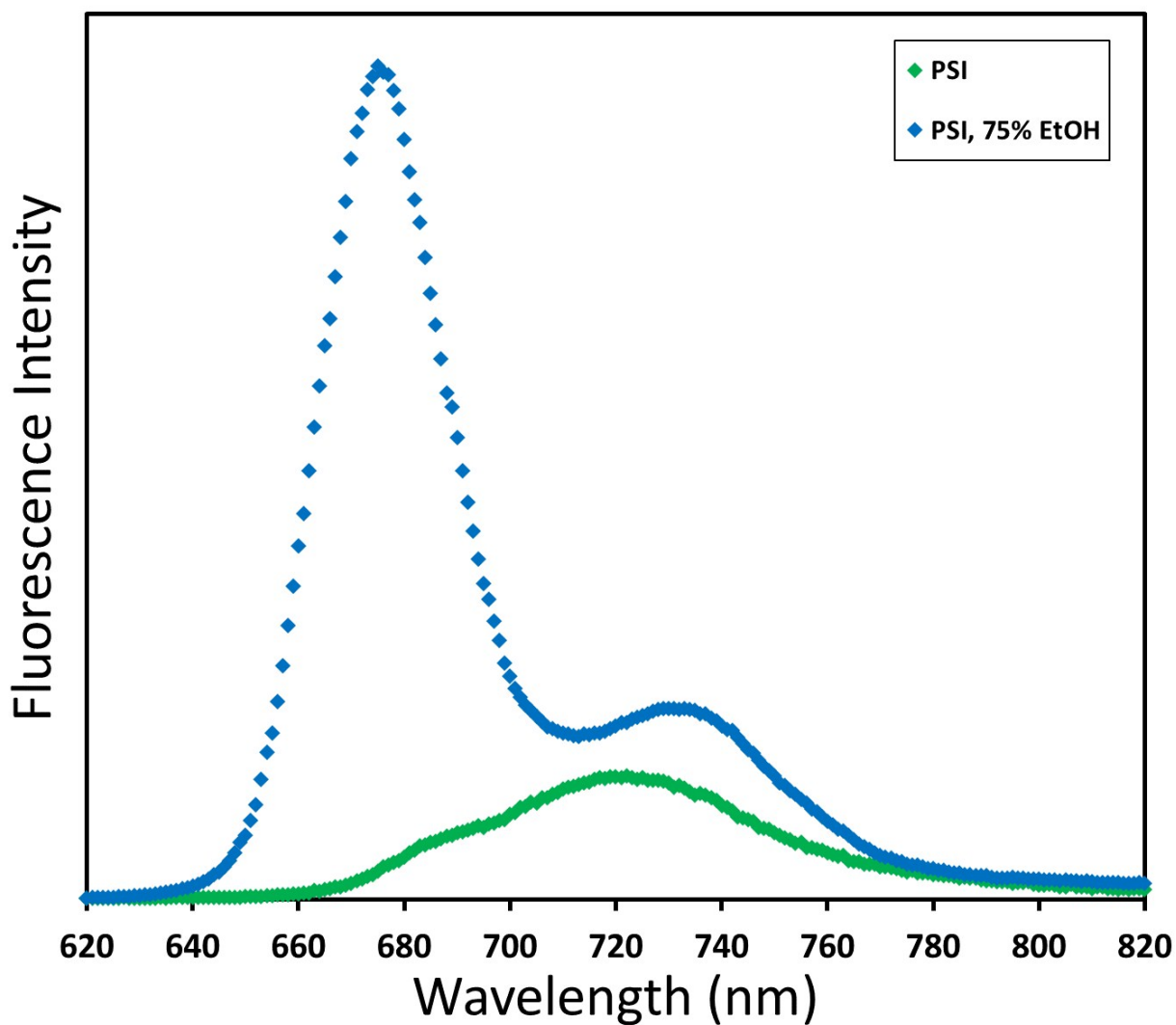


Figure S1. Room temperature fluorescence emission (excitation 440 nm) of PSI in water and PSI denatured in 75% ethanol. The peak shifts from 720 nm (green) to 675 nm (blue).

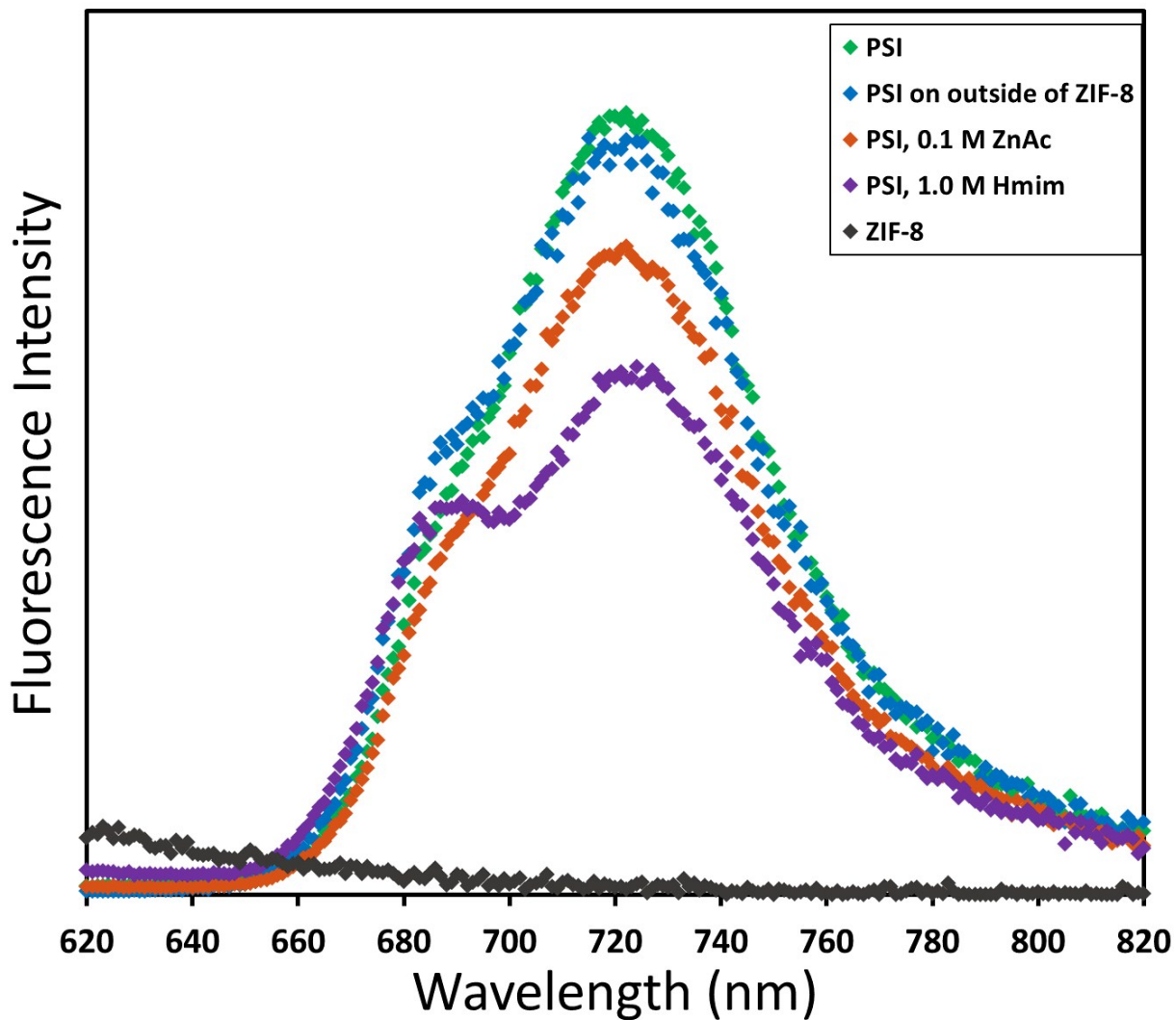


Figure S2. Room temperature fluorescence emission (excitation 440 nm) of various PSI and ZIF-8 samples. ZIF-8 alone (black) has no emission, and PSI bound to ZIF-8 surface (blue) has no shift in emission. PSI in either zinc acetate (orange) or 2-methylimidazole (purple) alone show minor decreases in fluorescence, and the shoulder appearance is due to the high pH of Hmim solution.

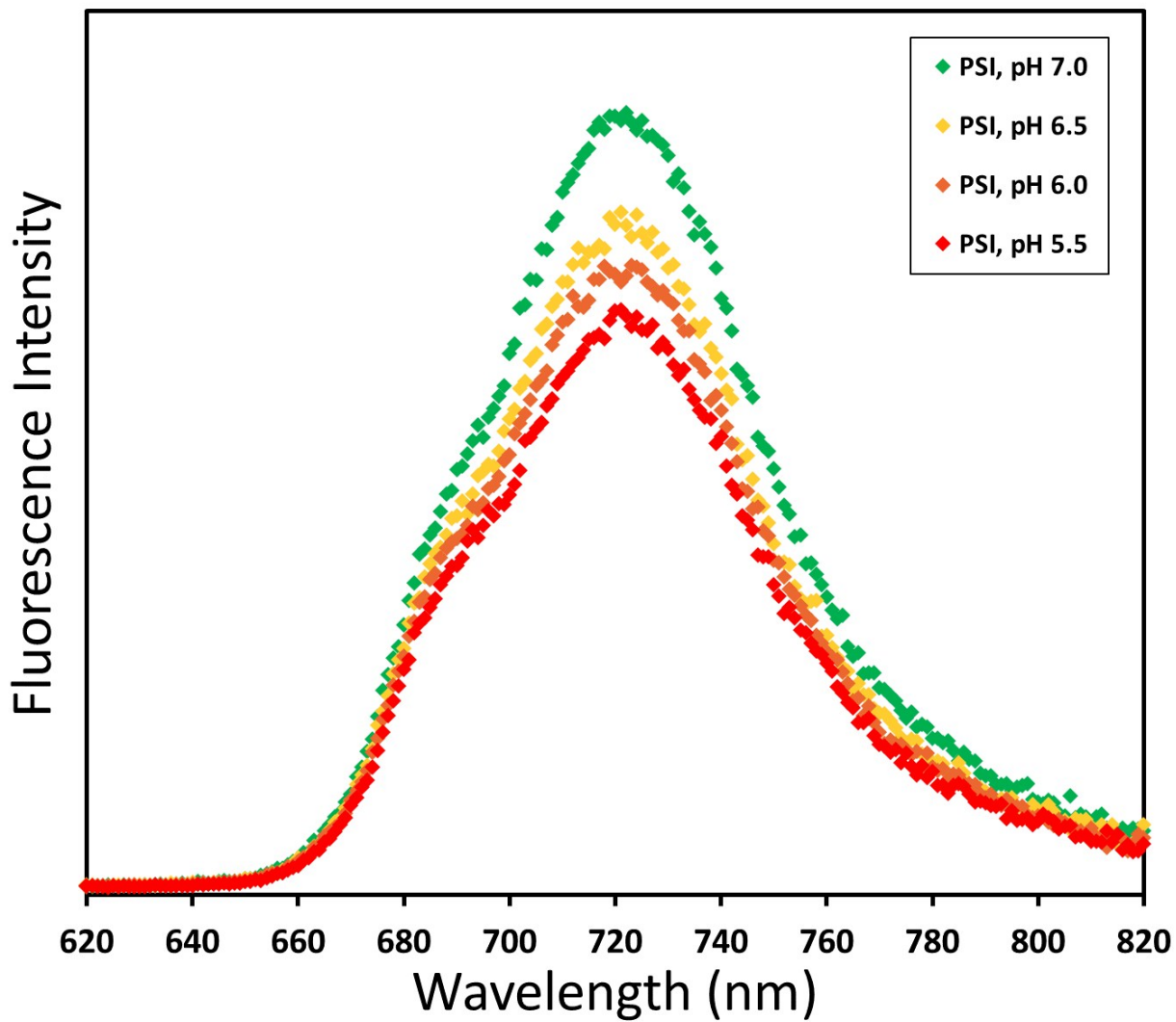


Figure S3. Room temperature fluorescence emission (excitation 440 nm) of PSI in increasingly acidic conditions. The presence of acid does not shift the emission peak, but decreases intensity as the magnesium ions are dechelated from chlorophyll.

	τ_{decay} (ms)		
	Asc	Asc + MV	Asc + MV + DCPIP
free PSI	89	307	89
PSI@ZIF8	95	195	86
SDS treated PSI@ZIF-8	110	253	101
EtOH treated PSI@ZIF-8	83	243	95

Table S1. The characteristic decay times for PSI and PSI@ZIF-8 in the presence of various mediators.