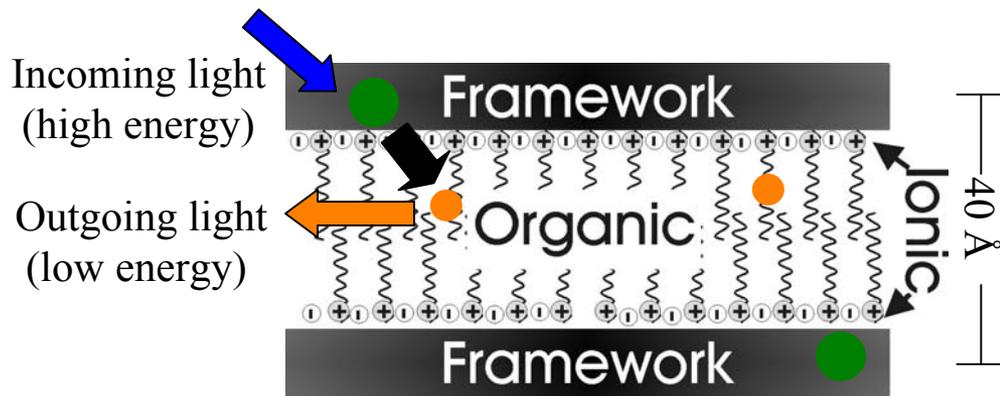


Synthesis and Properties of Mesostructured Thin Films

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We have developed methods for deliberately placing molecules in spatially separated regions of silicate nanostructures. The materials are self-assembled by a one-step dip-coating procedure. The functional material illustrated on the right contains two different molecules, a donor and an acceptor, that are located in the silicate framework and the organic surfactant, respectively. When the donor absorbs a photon (blue arrow), it transfers its energy (black arrow) to the acceptor that in turn emits a photon of a different energy (orange arrow). This energy transfer is used to measure the distances between molecules on the nanoscale.



- = Tb Complex
- = Rhodamine 6G

