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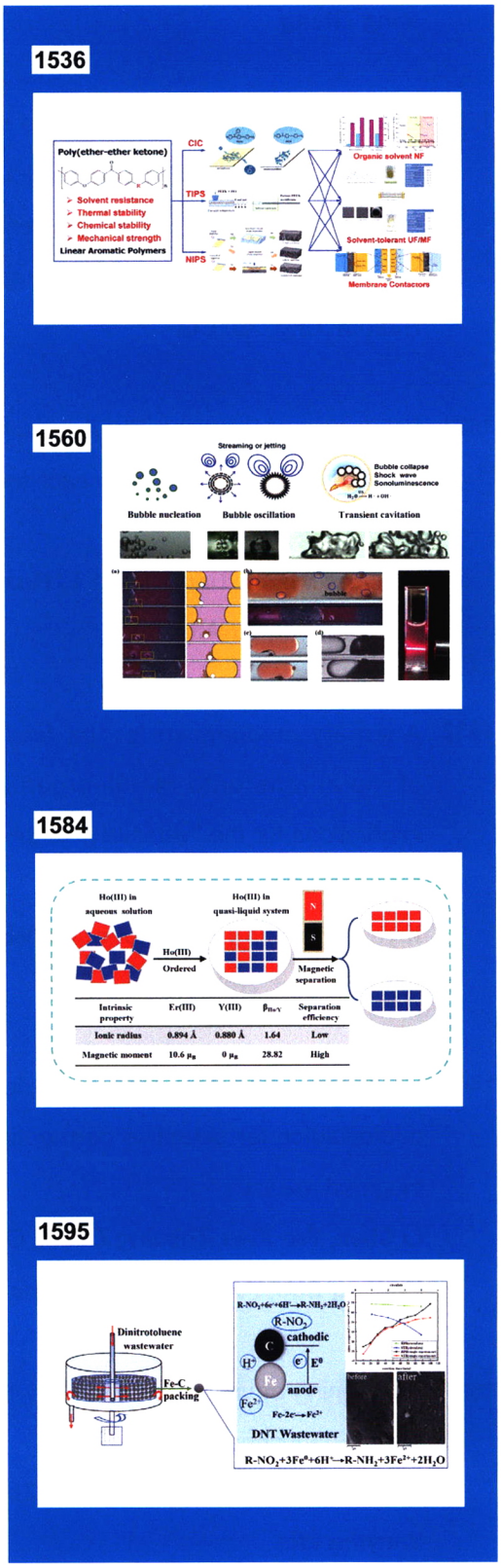
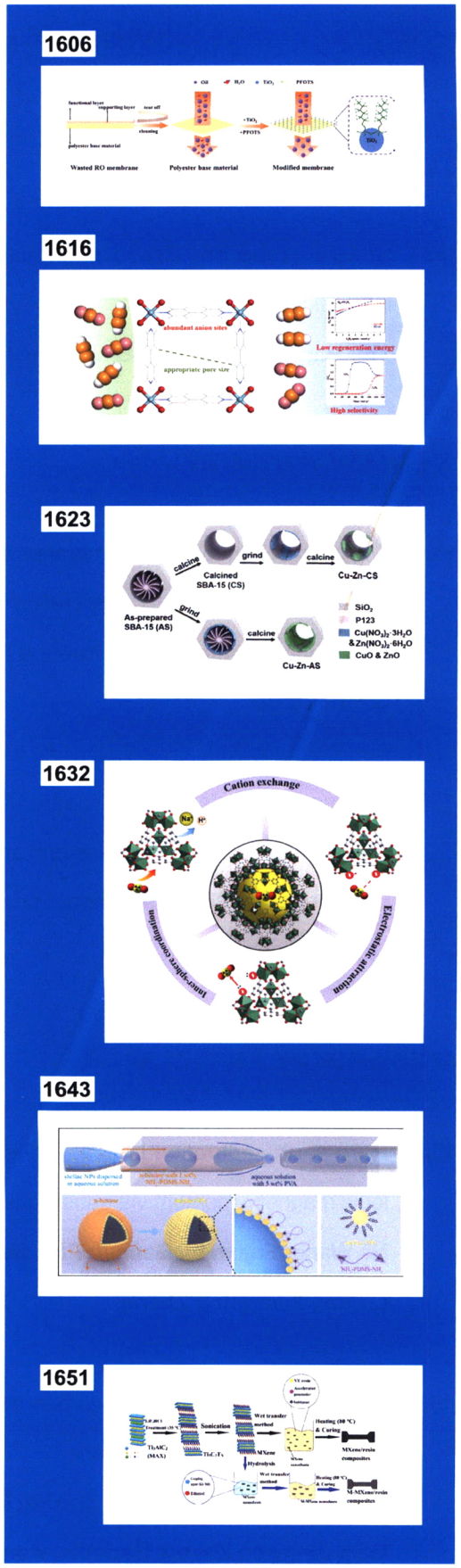
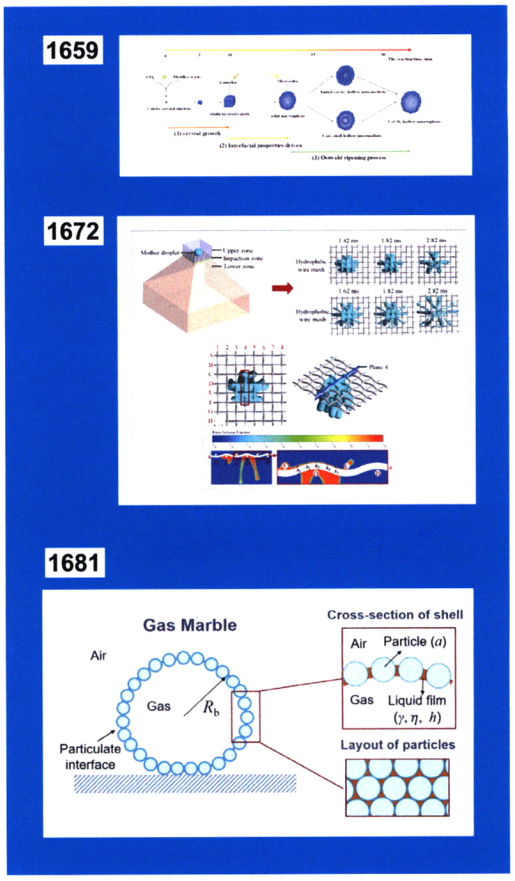
EDITORIAL

REVIEW ARTICLE

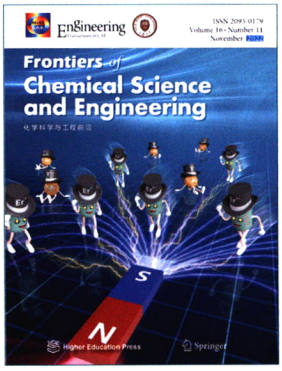
RESEARCH ARTICLE







VIEWS & COMMENTS



COVER

The separation of rare earth elements is particularly difficult due to their similar physicochemical properties. Based on the differences of ionic magnetic moment via quasi-liquid strategy, two typical paramagnetic and diamagnetic rare-earth ions, Er^{3+} and Y^{3+}, are separated in the external magnetic field. The paramagnetic Er^{3+} in ionic liquid is rapidly attracted to the permanent magnet and gathered around the magnet finally, while the diamagnetic Y^{3+} has no response with the magnet. The ionic liquid herein provides a quasi-liquid surrounding of the rare-earth ions, which efficiently promotes the magnetism differences of Er^{3+} and Y^{3+}. The separation factors of Er/Y can be achieved at 9.0, six times of that in the traditional 2-ethylhexylphosphonic acid mono-(2-ethylhexyl) ester(P507)-HCl-kerosene system. Meanwhile, the separation factors of Ho/Y, another neighboring rare earth elements as a challenging separation couple, is up to 28.82 with the similar process. Magnetic separation via quasi-liquid system strategy provides a possibility of the novel, green, and efficient method for rare earth separation. (Na Wang, Fujian Li, Bangyu Fan, Suojiang Zhang, Lu Bai, Xiangping Zhang, pp. 1584–1594)

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