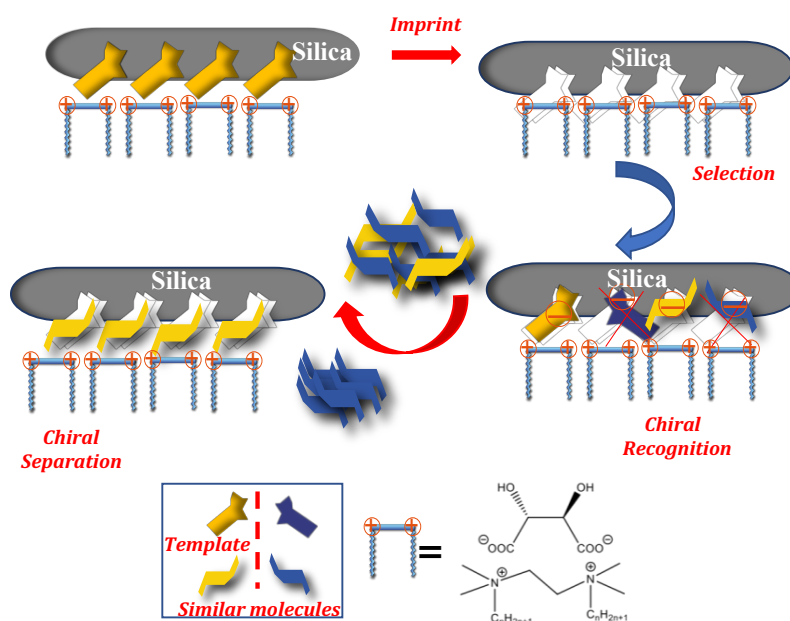


Study of Chiral Recognition and Separation Processes by Silica Based Hybrid Materials

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The fact that the chirality of a hybrid material such as nano-helices can be transmitted to achiral moieties has been reported.¹⁻³ In the present study, we investigate the sensing and enantio-separation of relevant chiral molecules by designed chiral hybrid materials. We have prepared our sensor with custom binding sites with memory of the shape, size and functional groups of the model molecules utilizing the molecular imprinting technology.⁴ This method has its advantages over others due to its low cost, easy synthesis, high chemical and physical stability, excellent recyclability. Hybrid helical materials based on silica are considered. We assess that such sensors can be applied for molecules similar in structure to the model molecules due to the facilitation of similar interactions (Figure below).



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