

## MOLECULARLY IMPRINTED NANOPARTICLES PRODUCED BY AUTOMATIZED SOLID-PHASE SYNTHESIS

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The process of molecular imprinting aims at the preparation of tailor-made materials exhibiting highly selective binding sites for a molecule of interest, called template [1]. In this project, we are intending to manufacture Nano-MIPs typically containing a single binding site for their target by automatized solid-state synthesizer [2,3]. MIP-dx company in UK, a spin off from Leicester University, our collaborator in this project, employs a novel method to make Nano-MIPs which circumvents the drawbacks of traditional MIP manufacturing methods. As illustrated in Fig 1, this approach comprises four steps: 1. Immobilization of template on the solid surface (Fig 1a), 2. Polymerization using a collection of judiciously selected monomers and crosslinkers under UV (Fig 1b), 3. Washing at low temperature to remove low affinity NPs and finally 4. Elution at high temperature to collect high affinity Nano-MIPs likely to have single binding affinity like antibodies (Fig 1c). These “plastic antibodies” eventually will be employed to enrich the low abundance glycoproteins which is our final focus of this project.

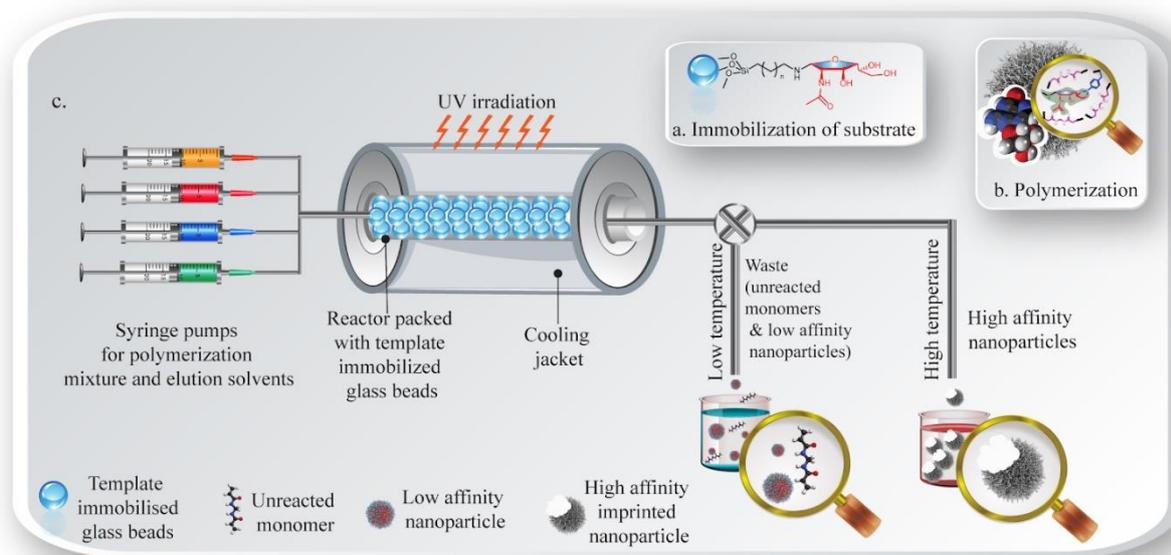


Fig.1. Schematic representative of automatized solid-state synthesizer

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