

Small scale reactions can be performed by: (a) adding functionalized magnetic particles to a sample to perform a first reaction on a first hydrophilic spot provided with buffers(s), reactant(s) and/or ligand(s), where the hydrophilic spot is located on a hydrophobic surface and where the magnetic particles are functionalized to bind/adhere to at least one target compound in the sample, and (b) magnetically transferring the magnetic particles with or without bound target to a second hydrophilic spot on the hydrophobic surface for a further reaction of the sample, where said second hydrophilic spot is provided with buffers(s), reactant(s) and/or ligand(s).

- The hydrophobic surface of the device can be a polymer film, a Petri dish, a planar slide, a microfabricated device or a multiwell plate.
- The magnetic beads or particles may be functionalised with affinity ligands, metal chelating ligands, ion exchange ligands, hydrophobic ligands and/or reactive groups. Depending on the application the magnetic beads or particles can be made biocompatible, i.e. provided with biocompatible outer layer(s) preventing metal leakage.
- The means to be provided beneath or above the hydrophobic surface is a handheld magnet or an automatically directed magnet or a magnetic field produced by one or more electromagnet coils.

Figure 1: shows a schematic example of the device of the invention comprising a polystyrene surface with hydrophilized spots or stations with buffer droplets.

Figure 2: shows another schematic embodiment of the device of the invention

Figure 3: shows a further schematic embodiment of the device of the invention.

