



## Hydrophobic substrates for adhesion of biocolloids

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### Short abstract

This recipe describes a simple surface functionalization strategy to produce hydrophobic glass surfaces for the attachment of biocolloids like viruses, collagen nanoparticles, lipoplexes, etc. Glass coverslips are coated with silazanes to make them hydrophobic.

### Step-by-step description of procedure

1. Take glass coverslips with the proper size for the AFM measurements.
2. Immerse the coverslips in the KOH solution and leave for 15 h. This procedure etches the surface of the glass coverslip, making them hydrophilic.
3. Lift the coverslips out of the KOH bath and remove the KOH solution from the coverslips by rinsing them one by one with deionised water.
4. Blow dry the coverslips with a gentle stream of nitrogen
5. Place the coverslips in a clean and dry container.
6. Add ~1 ml of HMDS into the container. Take care that the HMDS is not touching the coverslips (by putting the coverslips on an elevation, for instance). Close the container, and seal with parafilm. Leave it for 15 h.
7. Remove the lid of the container (still under the fume hood) and leave the container open to let the HMDS completely evaporate.
8. The hydrophobic glass coverslips are now ready to use.

### Special SAFETY comments

It is advised to work under the fume hood of a chemistry lab and to wear proper protections (lab coat, goggles, gloves etc.). KOH solutions and HMDS are dangerous because of their corrosive nature. HMDS is furthermore very volatile and both solutions should only be used under the fume hood.

### Materials/chemicals/devices required

Glass coverslips (diameter 10-15mm), KOH solution, HMDS (hexamethyldisilazane), Parafilm

**You will also need (non standard items):** a fume hood.