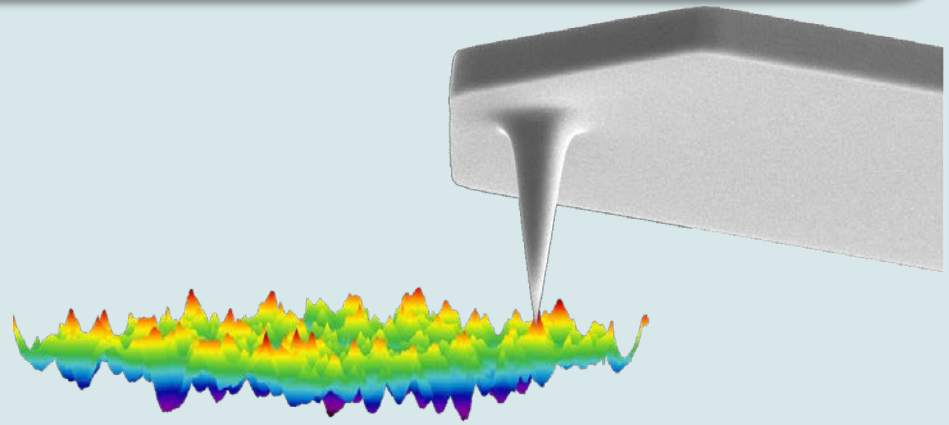


Functionalization and liquid storage of AFM probes Apparatus for facilitated cleaning, silanization and functionalization of AFM tips and a container for safe storage of AFM probes

US patent

Purposely designed system for the efficient functionalization of AFM probes. The system facilitates process steps, prevents probe breakage and eases probe exchange in the AFM microscope. A container for the safe storage and shipping of functionalized AFM probes in liquid buffer is part of the system.



Background:

Atomic Force Microscopy (AFM) is a powerful tool for the study of surface topography at the nanoscale. However, AFM can also be used as an extremely efficient single-molecule sensor by coupling a ligand molecule to the AFM probe. However, AFM probe functionalization using current methods is a very delicate and manual process that often ends up in contamination of the tip of the probe or a number of broken tips due to the lack of appropriate tools. Moreover, commercially available containers for the transportation and storage of functionalized AFM probes in liquid buffers fail to ensure safe and clean solutions to this technical problem.

Technology:

We provide a complete solution for the functionalization and further storage of AFM probes. This invention enables AFM specialists to improve AFM probe functionalization by providing means for a robust and easy to handle system for cleaning, silanization and functionalization of the probes. The handling system protects the tips of the AFM probes from breakage and contamination while increasing functionalization efficiency, ease of handling and probe replacement.

Example applications:

Cleaning, silanization and functionalization of AFM probes; cross-linker coupling of AFM probes; facilitated AFM exchange; storage and transportation of AFM probes in liquid solutions.

References:

- US patent 8,484,758 B2
- US patent 8,579,110 B2