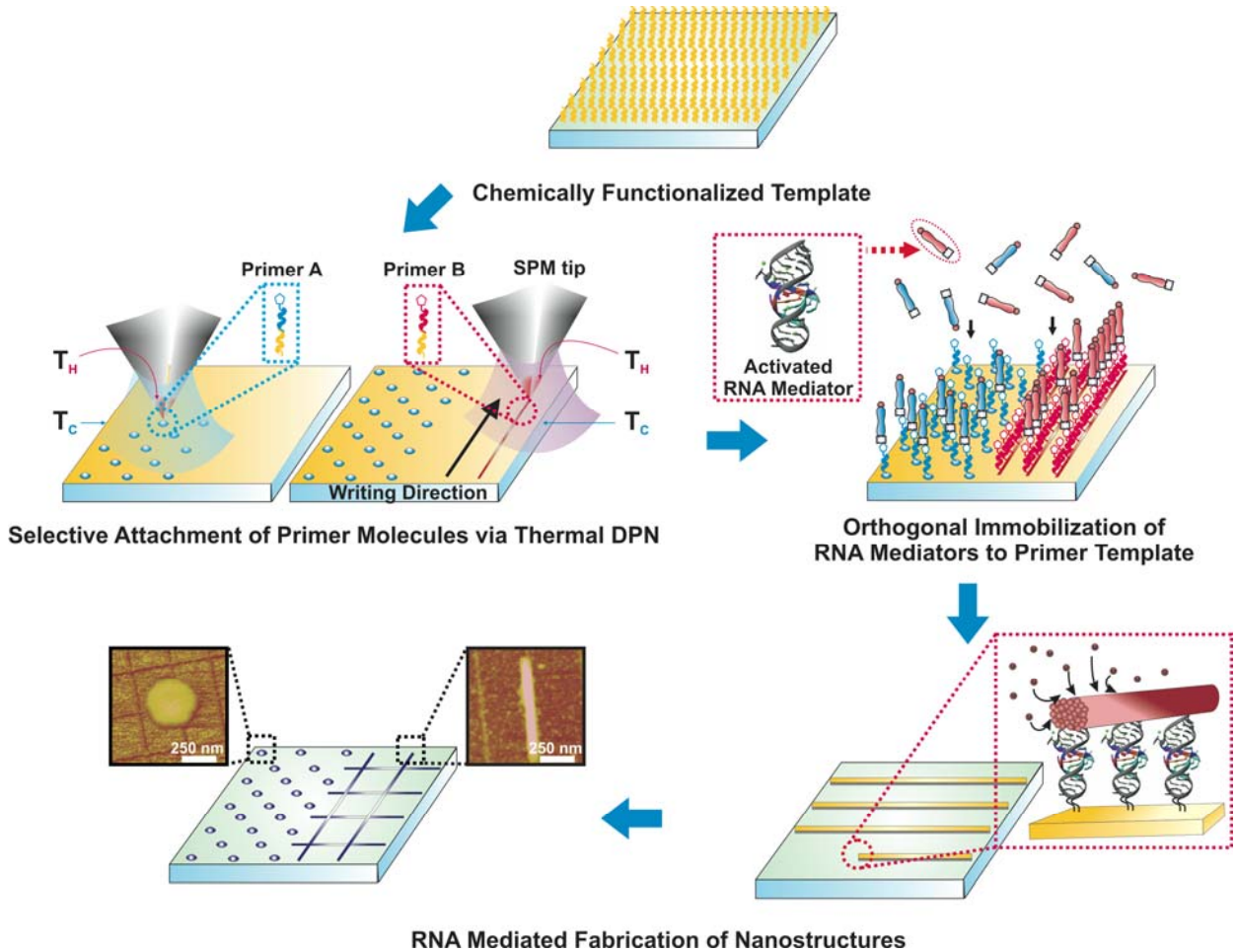
This project combines bio-mediated synthesis with thermally-driven reactivity to achieve nm-scale templating

Bio-inspired scheme for tip-based nanofabrication



Functionalize substrate with base SAM

Use heated tips to confine reaction of template linker to base

Introduce linker-specific RNA mediators of metals and/or semiconductor growth

Sequentially introduce precursor solutions to form metallic and semiconductor nano-crystals and -wires

Use surrounding "resist" to limit extent of growth

Natural route to material heterogeneity

Approved for Public Release, Distribution Unlimited