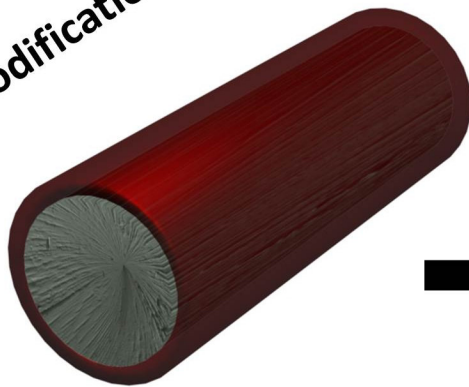




raw cotton



surface modification



borate - Au NPs layer



template removal



hollow 1D tubes  
of composite material