

Supplementary materials caption:

Figure S1:

The process line involves the coating of graphene oxide (GO) onto an SS316L substrate through a sequence containing silanization followed by dip coating. This process involves the initial treatment of the SS316L substrate through silanization, a method generating the chemical bonding of a silane compound to the substrate's surface. Subsequently, the treated substrate is immersed into a solution containing the graphene oxide, facilitating the coating of the GO onto the silanized SS316L surface.

Figure S2:

Evaluation of the thickness of the GO coatings on SS316L substrates conducted using the focus ion beam and scanning transmission electron microscope (FIB and STEM, respectively) measurements. The measurements revealed a uniformly distributed thickness of the coating, as independent measurements (at different points) detected comparable coating thicknesses (app. 60-70 nm). The scale bar corresponds to 0,5 μm . Additionally, these values correlate with those obtained through AFM measurements. (Scale bar corresponds to 500 nm).

Table S1:

Chemical composition analysis of the surface modified SS316L substrates with GO, assessed through XPS narrow scan spectra.

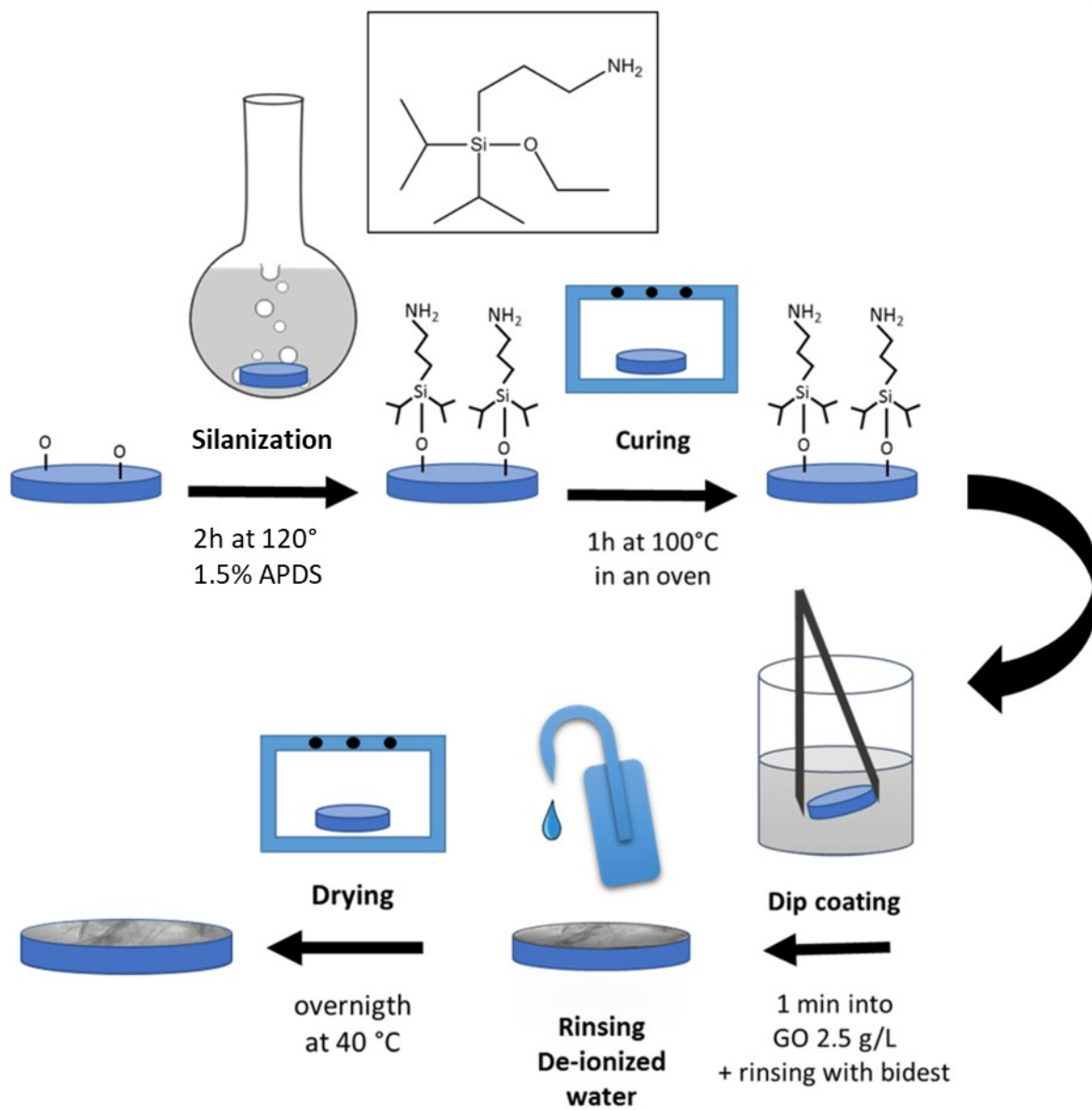


Figure S1.

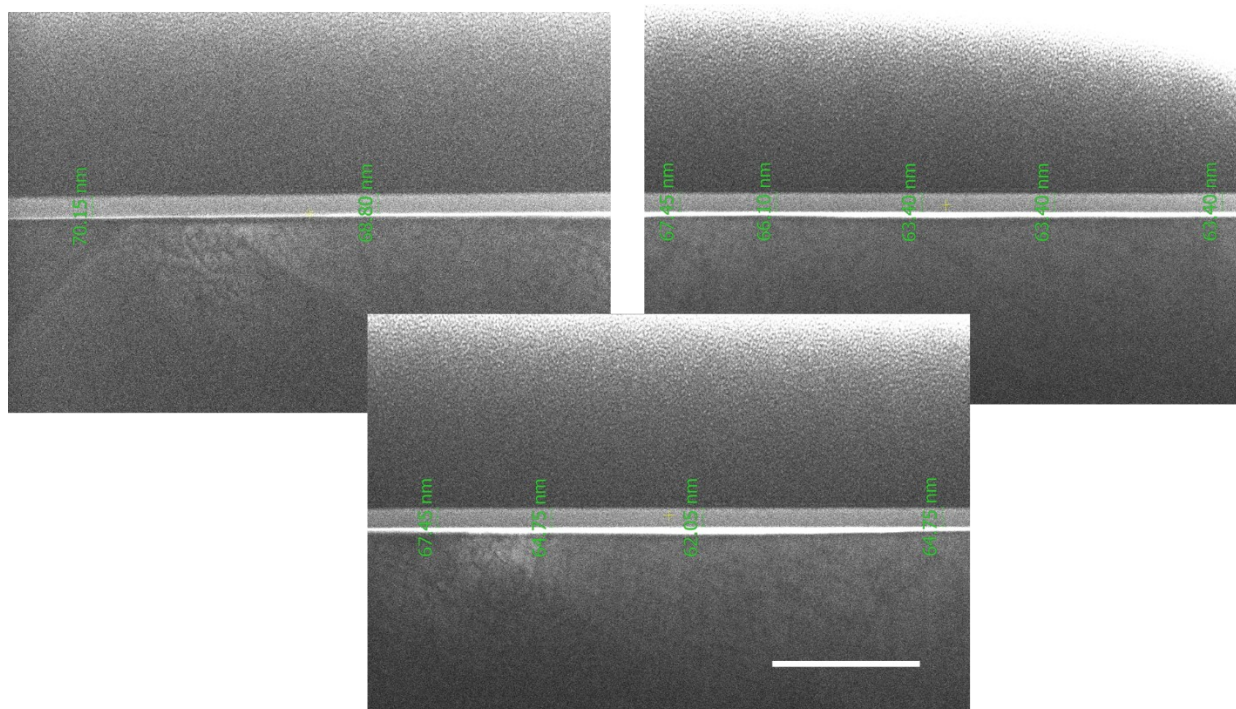


Figure S2.

Table S1.

sample	C 1s %	O 1s %	Si 2p %
SS316L+GO	58.8	39.0	2.2
SS316L salinized	38.8	56.0	5.2
SS316L	39.7	58.4	1.9