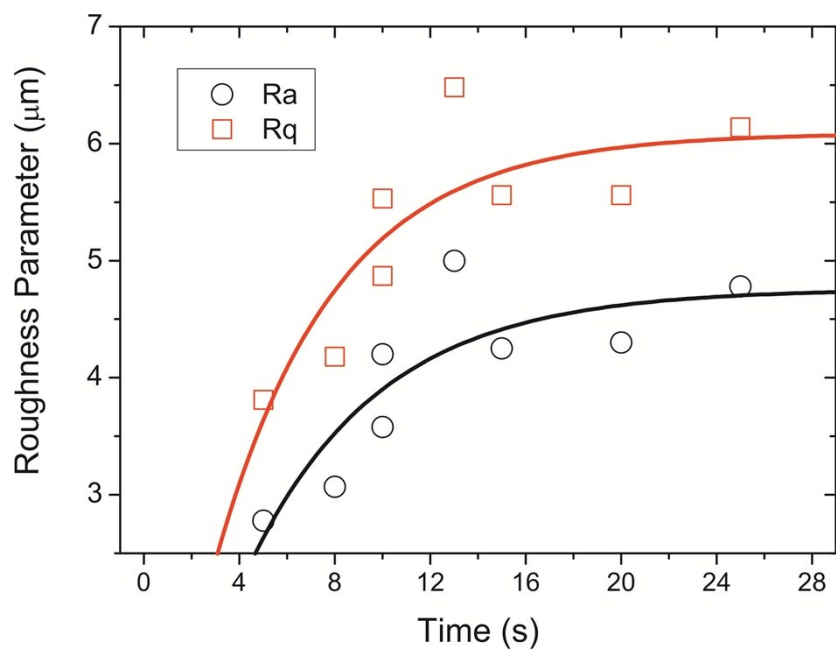


### Supplement Information

The optimization of the sandblasting was performed after a scan of the surface roughness induced by this texturization process on samples of galvanized steel.

We set a low pressure of 0.3 MPa and we sand-blasted the as-provided samples during different times within the range between 5s and 25s. The roughness was measured with the Surface Roughness Tester MITUTOYO SJ-201 and the results of the roughness parameters Ra (Average Roughness) and Rq (Root-mean squared roughness) are displayed in Figure 1S. These results are in good agreement with those obtained by Confocal Microscopy. These results confirm that after around 10s of sandblasting the surface roughness parameter do not change noticeably. Since our aim is to increase the surface roughness as much as possible without damaging the galvanized coating, we decided to keep the sandblasting time constant at 15s. We observed that this level of micro-roughness is enough to produce water repellent surfaces on galvanized steel provided they are later acid-etched.



**Figure 1S** Roughness parameters Ra and Rq in terms of the sandblasting time measured on the galvanized steel samples after the surface roughening.