



Showcasing research from Professor Miyamae's laboratory, Graduate School of Science and Engineering, Chiba University, Chiba, Japan.

Adhesion strength of aluminium surfaces coated with silane coupling protective layers *via* acid-base interactions

By combining sum-frequency generation (SFG) spectroscopy with molecular dynamics simulations, higher "acid hardness" of hydroxyl groups on silane-treated aluminium surfaces was found to enhance electrostatic interactions with amine-based curing agents in epoxy resins, leading to higher adhesive strength.

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See Shuji Ogata, Takayuki Miyamae *et al.*, *RSC Appl. Interfaces*, 2026, **3**, 364.