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Aqueous or solvent based surface modification: the influence of the combination solvent - organic functional group on the surface characteristics of titanium dioxide grafted with organophosphonic acids.

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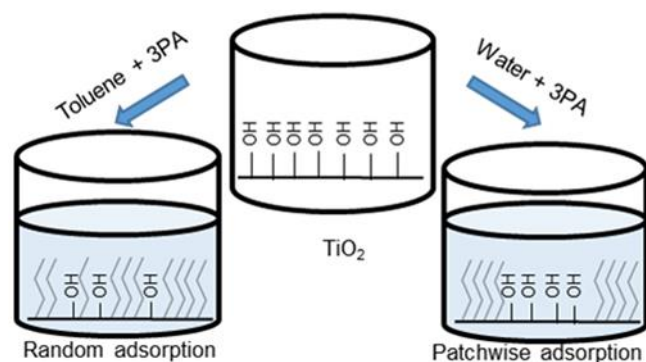
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Graphical Abstract



Highlights

- Functionalization of TiO₂ with organophosphonic acid (PA)
- Interaction between solvent-solute-surface influences the modification TiO₂ with PA
- The influence of water or toluene on the modification depends partly on the functional group
- In toluene random adsorption of PA occurs changing interaction energy
- In water patches of hydroxyl groups and grafted groups result in equal interaction energy

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