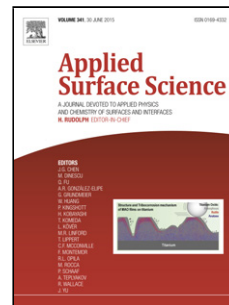


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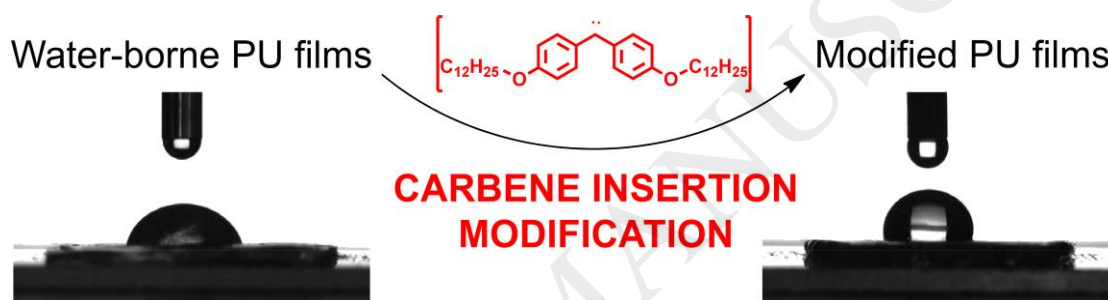
Surface hydrophobic modification of polyurethanes by diaryl carbene chemistry: synthesis and characterization

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Graphical abstract



Highlights

- Dodecyl diaryl diazomethane could generate carbene by solar-light exposure.
- Water-borne polyurethane film could be well modified by carbene insertion reaction.
- The surface property of the film was changed from hydrophilicity to hydrophobicity.
- The hydrophobic modification would protect polyurethane film from moisture.

ABSTRACT: dodecyl diaryl diazomethane was firstly synthesized from

4,4-dihydroxybenzophenone and 1-bromododecane by a series of reaction steps. Then water-borne polyurethane films with different amount of DMPA were prepared, as well as a type of solvent-borne polyurethane film for comparison. Finally, all these polyurethane films were modified by dodecyl diaryl diazomethane. The dodecyl diaryl carbene was

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