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Enhancement of adhesion by applying amine primer to *isotactic* polypropylene and open time dependence of primer effect

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ABSTRACT

Primer treatments to improve the adhesive properties of *isotactic* polypropylene (*it.*PP) have advantages in terms of their simple process and reasonable costs. However, a large contribution to the optimization of the treatment condition is required because of many parameters for achieving high adhesion strength. In addition, the mechanisms of primer effects have not been explained completely. We investigated the primer effects of dimethyloctadecylamine on the *it.*PP surface from the viewpoint of structural and surface properties. The *it.*PP main chains in the thin film state were aligned in parallel to the substrates. After amine primer treatment, the dimethyloctadecylamine assembled on the *it.*PP layer within 5 h. The primer alignments