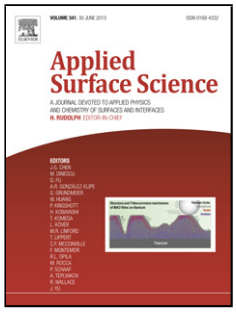

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The tracking of interfacial interaction of amorphous solid dispersions formed by water-soluble polymer and nitrendipine

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Highlights

- Nitrendipine amorphous solid dispersions named TDP-PVP and TDP-PEG were prepared
- Hydrogen bond forces were formed between drug and excipient in TDP-PVP and TDP-PEG
- Fit profile of contact angle to get dissolution mechanism of TDP-PVP and TDP-PEG
- TDP-PEG was carrier-controlled and TDP-PVP was drug/carrier-controlled diffusion

Abstract

Herein, interfacial interactions of amorphous solid dispersion formed by nitrendipine (TDP) and two types of water-soluble polymers (polyvinyl pyrrolidone K30 (PVP) and polyethylene glycol 6000 (PEG)) were tracked mainly concerning with interaction forces and wetting process. Infrared spectroscopy (IR), Raman spectroscopy and contact angle instrument were mainly used through the study. Hydrogen bonding forces were formed between drug and excipient in TDP-PVP and TDP-PEG. The red raman shift of TDP-PVP and TDP-PEG confirmed the hydrogen