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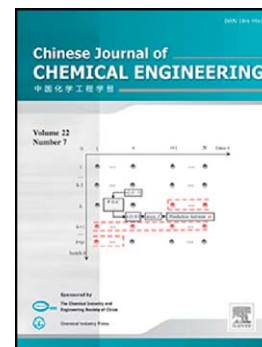
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Separation Science and Engineering

**IMPACTS OF DIFFERENT DRYING STRATEGIES ON DRYING CHARACTERISTICS, THE
RETENTION OF BIO-ACTIVE INGREDIENT AND COLOUR CHANGES OF DRIED ROSELLE[☆]**

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Abstract: The drying kinetics of Roselle (*Hibiscus sabdariffa*. L) of variety Terengganu (UMKL-1) and the quality attribution of Roselle were studied. The experiments were conducted using four different drying methods, including solar greenhouse drying (SD), solar greenhouse with intermittent heat pump drying (SIHP), hot air drying (HA) and heat pump drying (HP). Among the four drying methods, HP achieved the highest drying rate at a range from $0.054 \text{ g H}_2\text{O} \cdot (\text{g DM})^{-1} \cdot \text{min}^{-1}$ to $0.212 \text{ g H}_2\text{O} \cdot (\text{g DM})^{-1} \cdot \text{min}^{-1}$ while SD had the lowest drying rate, measured at $0.042 \text{ g H}_2\text{O} \cdot (\text{g DM})^{-1} \cdot \text{min}^{-1}$. The analysis on colour kinetics revealed that there is no significant colour loss ($p > 0.05$) observed from HP's dried Roselle. Greater amount of flavonoids compounds i.e. protocatechuic acid was found in SD and SIHP dried finished product whereas HP's dried Roselle contains

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