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Enthalpy-entropy compensation analysis of the powder of *Taraxacum officinale*'s leaves in moisture sorption phenomena

Moussaoui Haytem, Iddimam Ali and Lamharrar Abdelkader
Cadi Ayyad University, Morocco

Taraxacum officinale is a kind of flowering plant that belongs to a vast family of Asteraceae. This family is represented by more than 2500 species. They are utilized for various purposes that include for dyspepsia, bile stimulation, bruises, rheumatism, eczema and muscle aches. Moreover, the powder of dandelion is used as special ingredients in soups, salads, green tea and wines. The *Taraxacum officinale* used in this study were collected locally in Settat region, Morocco. The aim of this study is to determine the experimental sorption isotherms and the net isosteric heat of sorption to conserve the powder. These isotherms are a powerful tool to know the state of water inside the product and his functional availability in the biological and chemical substances. The sorption isotherm curves were determined experimentally for the carob seeds at 3 temperatures (30, 40, 50 °C) and relative humidity within the range of 5-90% commonly used in the drying and storage. The net isosteric heats of sorption of water were determined from the equilibrium data at different temperatures. The compensation theory was further used to good straight lines were observed for adsorption and desorption. The Gibbs free energy values are positive ($\Delta G\beta > 0$), indicating that the sorption processes are not spontaneous.

Biography

Moussaoui Haytem is currently a PhD student and a Member in Laboratory of Solar Energy & Aromatic and Medicinal Plants, ENS Marrakesh, Physics Department, Cadi Ayyad University, Marrakech, Morocco. He is also an Industrial Engineer. Moreover, he is a Member in Techno-Sharing Club for Student Development. He has participated in several social activities whose aim is to help the homeless children and the old men in house of the elderly.

nabilbouchra23@gmail.com

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