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# Effects of Microwave Power and Carrier Materials on Anthocyanins, Antioxidants, and Total Phenolic Content of Encapsulated Clitoria ternatea Flower Extract

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Zaki, Nurul Asyikin Md<sup>a, b</sup> ≅; Jai, Junaidah<sup>a</sup> ≅; Hasan, Mohd Hakim Syuwari<sup>a</sup> ≅;

Azman, Nur Qistina Mohamad Kamarul<sup>a</sup> ≅; Hashib, Syafiza Abd<sup>a</sup> ≅; Khairuddin, Nozieana<sup>c</sup> ≅;

Zain, Norashikin Mat<sup>d</sup> ≅; Samsulrizal, Nurul Hidayah<sup>e</sup> ≅
```

- <sup>a</sup> School of Chemical Engineering, College of Engineering, Universiti Teknologi MARA UiTM, Selangor, Shah Alam, 40450, Malaysia
- <sup>b</sup> Food Process Engineering Research Group, Universiti Teknologi MARA UiTM, Selangor, Shah Alam, 40450, Malaysia
- <sup>c</sup> Department of Science and Technology, Faculty of Humanities, Management and Science, Universiti Putra Malaysia UPMKB, Bintulu Sarawak Campus, Bintulu, 97008, Malaysia
- <sup>d</sup> Faculty of Chemical and Process Engineering Technology, College of Engineering Technology, Universiti Malaysia Pahang UMP, Pahang, Kuantan, 26300, Malaysia

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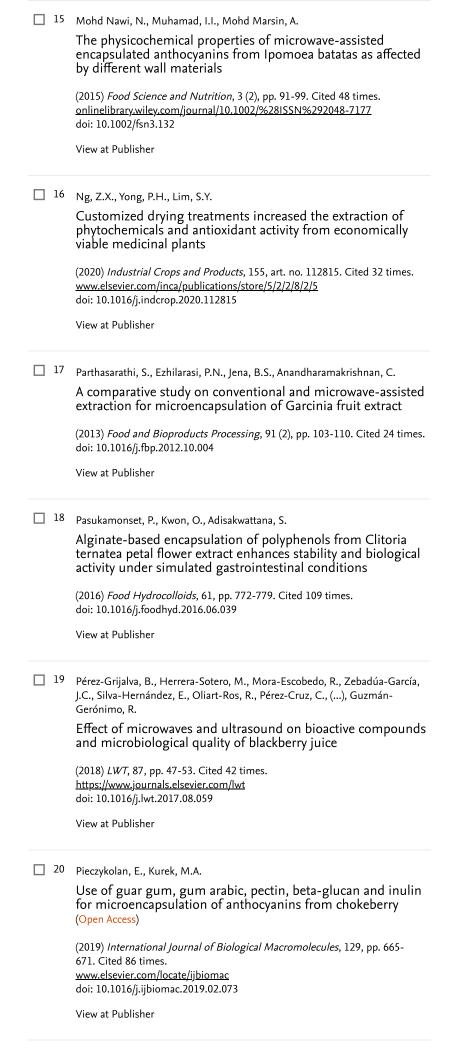
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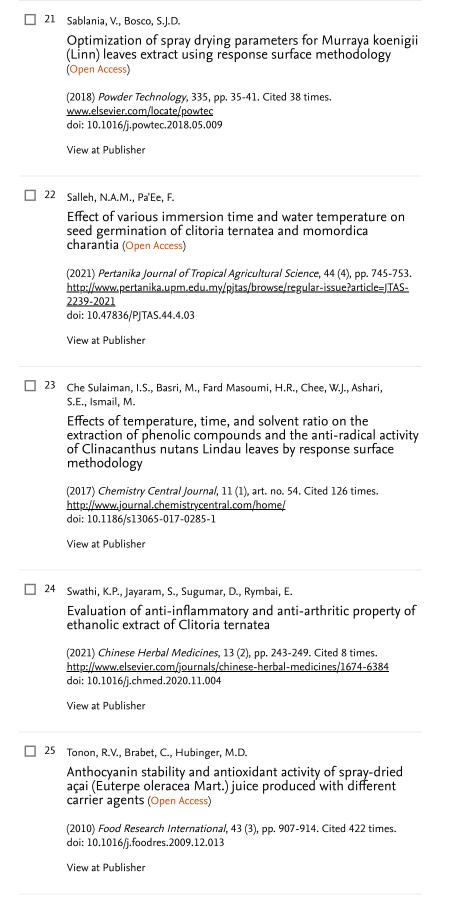
Clitoria ternatea, also famously known as the blue pea flower (local name: bunga telang), has attracted interest among researchers due to its plethora of biological and pharmacological properties. It is rich in anthocyanin and widely used as a natural food colourant. However, the poor stability of active compounds may affect the therapeutic benefits and limit their application in the pharmaceutical and food industries. Hence, this work aims to study the effects of microwave encapsulation on the anthocyanins, antioxidants, and total phenolic content of Clitoria ternatea flower extract (CTFE). Microwave-assisted encapsulation (MAEC) was carried out at three different powers (300, 450, and 600 W) with different formulations of Gum Arabic (GA) and Maltodextrin Dextrose (MD) as carrier materials from 40% to 70% w/v. The total phenolic content (TPC), antioxidant activity, and anthocyanins in encapsulates were analysed for the formulations. The findings showed that increased microwave power increased TPC and antioxidant activity (P<0.05). However, adding carrier materials concentration above 60% reduced TPC and the antioxidant activity of microwave-encapsulated anthocyanin from CTFE. The best microwave-assisted encapsulation conditions of CTFE were found at 600 W microwave power with 50% w/v carrier materials GA/MD (ratio 1:1) concentration. The retention of anthocyanins, antioxidant activity, and TPC increased significantly (P[removed]

Author keywords  Active compounds; anthocyanins; blue pea flower; microwave encapsulation; total phenolic				
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으 Zaki, I	N.A.M.; School of Chemical Engineering, College of Engineering, Universiti	
Teknologi MARA UiTM, Selangor, Shah Alam, Malaysia;		
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