

## Accepted Manuscript

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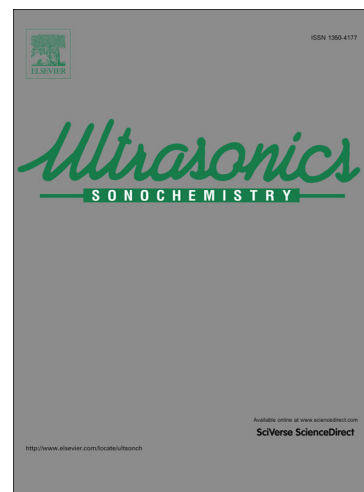
PII: S1350-4177(17)30449-2  
DOI: <https://doi.org/10.1016/j.ultsonch.2017.09.043>  
Reference: ULTSON 3891

To appear in: *Ultrasonics Sonochemistry*

Received Date: 7 July 2017  
Revised Date: 25 September 2017  
Accepted Date: 25 September 2017

Please cite this article as: N.A. Pinchukova, A.Y. Voloshko, M.A. Merko, Y.A. Bondarenko, V.A. Chebanov, Intensification of ion exchange desorption of thiamine diphosphate by low-powered ultrasound, *Ultrasonics Sonochemistry* (2017), doi: <https://doi.org/10.1016/j.ultsonch.2017.09.043>

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## **Intensification of ion exchange desorption of thiamine diphosphate by low-powered ultrasound**

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### **Abstract**

The process of ultrasound-assisted ion-exchange desorption of cocarboxylase (thiamine diphosphate (TDP)) from a strong acidic cation resin was studied. Kinetics studies revealed that ultrasound accelerates TDP desorption by 3 times. The optimal desorption parameters, *viz.* US power input, sonication time, eluent/resin ratio and the eluent (ammonium acetate buffer) concentration were established which were 15 mW/ cm<sup>3</sup>, 20 min, 1:1 and 1M, respectively. The resin stability studies showed that the optimal ultrasonic power was less by the order than the resin degradation threshold which ensures durable and efficient resin exploitation during production. The resin sorption capacity remained unchanged even after 20 cycles of TDP sorption, ultrasonic desorption and resin regeneration. The recovery ratio of TDP was shown to increase non-linearly with decreasing the

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