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Journal Name:	American Chemical Science Journal
Manuscript Number:	2015_ACSj_16508
Title of the Manuscript:	Ultrasonic degradation of polyvinyl pyrrolidone (PVP): effect of power of ultrasound, Temperature and Concentration
Type of the Article	Original Research Article

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound.

To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

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PART 1: Review Comments

	Reviewer's comment	Author's comment <i>(if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)</i>
<u>Compulsory</u> REVISION comments		
<u>Minor</u> REVISION comments	In the manuscript titled <i>Ultrasonic degradation of polyvinyl pyrrolidone (PVP): effect of power of ultrasound, Temperature and Concentration</i>, the effect of power of ultrasound, temperature and concentration of polyvinyl pyrrolidone (PVP) solution on the rate of ultrasonic degradation were investigated. A kinetic model based on viscometry data was used to calculate the rate constants in different conditions. Due to investigation of effect of ultrasonic power on the degradation of PVP, the power of ultrasound was changed in the range of 30-150W and observed that the viscosity of the PVP solution was decreased with an increase in the power of ultrasound. The ultrasonic degradation of PVP solutions was carried out at 5- 65°C to find the effect of the temperature on the rate of degradation of polymer. The calculated rate constants indicated that the degradation rate of the PVP solutions decreased as the temperature increased. It has been demonstrated on PVP, that treatment with a variety of output ultrasound powers in aqueous solution is an efficient procedure for reduction of molecular weight of PVP. This study confirms the general assumption that the shear forces generated by the rapid motion of the solvent following	



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	cavitation collapse are responsible for the breakage of the chemical bonds within the polymer. The manuscript <i>Ultrasonic degradation of polyvinyl pyrrolidone (PVP): effect of power of ultrasound, Temperature and Concentration</i> is significant in technologies of fabrication of polymers with designed molecular weights. These interesting scientific problems are discussed in very good way. Moreover, despite the fact the manuscript is connected with interested and modern scientific topic, it is worth to mention, that value of the manuscript improves the good quality illustrations, equations and tables. The paper is written legible English, the version needs revision (line 121-should be M₀).	
<u>Optional/General</u> comments		

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