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## Functionalized Polymers for Processing of Soymilk and Apple Juice

<i>Salient features</i>	<ul style="list-style-type: none"><li>➤ Adsorption-induced denaturation of soybean trypsin inhibitor (SBTI) and lipoxygenase (LOX) present in soymilk by simple contact at room temperature.</li><li>➤ Separation and recovery of SBTI and LOX from soymilk by balancing hydrophobic and ionic interactions on polymer support.</li><li>➤ Modification of epoxy polymer with polyethyleneimine</li><li>➤ Absorption of pectinase and further stability by crosslinking with dextran aldehyde.</li><li>➤ Use of immobilized enzymes on epoxy activated polymer supports for processing of soymilk and clarification of apple juice.</li></ul>
<i>Advantages</i>	<ul style="list-style-type: none"><li>✓ The immobilized enzyme is stable and can be recycled several times for clarification of apple juice.</li><li>✓ The expensive polymer matrix can also be recovered and recycled several times, making this process economically attractive.</li><li>✓ High protein yield (70%)</li><li>✓ High purification (5 times more)</li></ul>
<i>Process Technology / Product developed by</i>	Dr. N. W. Fadnavis, Department of Natural Products Chemistry CSIR-Indian Institute of Chemical Technology (IICT), Hyderabad, Andhra Pradesh. E mail: <a href="mailto:fadnavisnw@yahoo.com">fadnavisnw@yahoo.com</a> , <a href="mailto:fadnavis@iict.res.in">fadnavis@iict.res.in</a> Dr. Richa Pandey, CSIR-Indian Institute of Chemical Technology, Hyderabad.
<i>Year</i>	2013-14
<i>Source of funding</i>	MoFPI
<i>More information</i>	<b>Status of commercialization / Patent / Publication</b> Jasti, L.S., Fadnavis, N.W., Addepally, U., Daniels, S., Deokar, S. and Ponrathnam, S. 2014. Comparison of polymer induced and solvent induced trypsin denaturation: The role of hydrophobicity. <i>Colloids and Surfaces B: Biointerfaces</i> , 116: 201-205. Jasti, L.S., Lavanya, K. and Fadnavis, N.W. 2015. Adsorption induced denaturation: Application to denaturation of soybean trypsin inhibitor (SBTI) and lipoxygenase (LOX) in soymilk. <i>Biotechnology Letters</i> , 37: 147-151.

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