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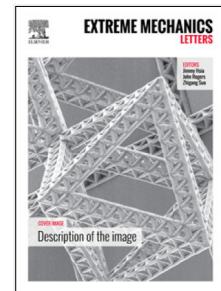
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**A simple and robust way towards reversible mechanochromism:  
using liquid crystal elastomer as a mask**

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**Abstract**

Mechanochromism is color change of a material induced by external force. Recently, it has been intensively studied for its potential applications in biomimetic camouflage devices and strain sensors. In this article, we developed a simple and robust way to fabricate reversible mechanochromic trilayer system using liquid crystal elastomer (LCE) and transparent elastomers. Subjected to mechanical stretch, an opaque polydomain LCE can transform to transparent monodomain, which is used as a mask to block (without stretch) or show (with stretch) the color patterns painted on an elastomeric layer attached underneath. In this article we also demonstrated the visualization of heterogeneous strain field in the developed mechanochromic system.

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