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# Rational Design of Advanced Elastomer Nanocomposites Towards Extremely Energy-saving Tires Based on Macromolecular Assembly Strategy

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## Abstract

Energy use due to automobile tires accounts for more than 6% of the world's total energy consumption and ~5% of all carbon dioxide emissions. We designed and fabricated a next-generation, energy-saving advanced elastomer (AE) based on a macromolecular assembly strategy. This AE delicately balances rolling resistance, wear resistance and wet-skid resistance, addressing the so-called "magic triangle" that has plagued the tire industry for more than century. This AE crosslinks anionically

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