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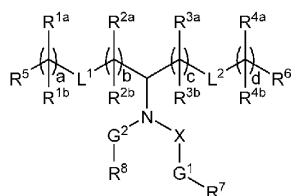
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(54) Title: CATIONIC LIPIDS FOR USE IN LIPID NANOPARTICLES



(I)

(57) Abstract: Compounds are provided having the following structure: (I) or a pharmaceutically acceptable salt, tautomer, or stereoisomer thereof, wherein a, b, c, d, G¹, G², L¹, L², R^{1a}, R^{1b}, R^{2a}, R^{2b}, R^{3a}, R^{3b}, R^{4a}, R^{4b}, R⁵, R⁶, R⁷, R⁸ and X are as defined herein. Use of the compounds as a component of lipid nanoparticle formulations for delivery of a therapeutic agent, nanoparticles comprising the compounds and methods for their use and preparation are also provided.

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