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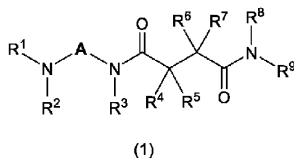
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(54) Title: A COMPOUND FOR PREPARING LIPID NANOPARTICLES ENCAPSULATING AN AGENT, NANOPARTICLE COMPOSITION COMPRISING SAID COMPOUND AND RELATED METHODS THEREOF



(57) Abstract: There is provided a compound represented by general formula (1) or ionized forms thereof for preparing lipid nanoparticles encapsulating a therapeutic, prophylactic and/or biological agent; wherein NR₁R₂ is a group that is ionizable at a pH range of from 3 to physiological pH; A comprises a linear aliphatic, branched aliphatic and/or cyclic hydrocarbons optionally comprising one or more groups selected from -OH, -NR-, -O-, -O-C_xH_{2x}-O-, where x ≥ 1; and where R is H, optionally substituted alkyl, optionally substituted alkenyl or optionally substituted alkynyl; R₃, R₄, R₅, R₆ and R₇ are each independently H, optionally substituted alkyl, optionally substituted alkenyl or optionally substituted alkynyl; and R₈ and R₉ are each independently hydrophobic group.



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