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HEADY TAIL	A1	A2	A3	A4	A5	A6	A7	A8	A9	A11	A12	A14	A15	A17	A18	A19	A20	A21	A22	A23	A24	A25	A26	A27	A28	A29	A30	A31	A32	A33	A34	A35	A36	A37	
T1							mRNA						pDNA		mRNA																				
T2						pDNA	Both		mRNA			mRNA	mRNA	Both																				mRNA	
T3						Both	Both					mRNA	mRNA	Both					mRNA																
T4			mRNA	mRNA	Both	Both			Both			mRNA		pDNA					mRNA	pDNA		pDNA	Both	Both	mRNA		pDNA							Both	
T5			mRNA	mRNA		Both	mRNA	mRNA		mRNA		mRNA		mRNA						pDNA				Both	Both	pDNA								Both	
T6		mRNA	mRNA	pDNA	Both	Both	pDNA		Both				mRNA	mRNA	pDNA	pDNA				pDNA				Both		pDNA	pDNA							pDNA	
T7		pDNA				Both							mRNA	mRNA	pDNA	pDNA																		pDNA	
T8														pDNA	pDNA																			pDNA	
T9						Both								pDNA																				pDNA	
T10								mRNA											mRNA															pDNA	
T11																																			
T12				Both	Both	mRNA	Both	pDNA	mRNA	Both		mRNA	Both	Both		pDNA	Both	Both	mRNA	mRNA	mRNA	mRNA	mRNA	Both	mRNA		Both						pDNA	Both	
T13			Both	pDNA	Both	Both	mRNA	Both	Both			Both	Both		mRNA		Both		mRNA	mRNA		mRNA	Both	mRNA	mRNA	Both	Both	Both						Both	
T14		mRNA	Both	Both	Both	Both	Both	mRNA	Both			mRNA	Both	Both																				Both	
T15			Both	Both	Both	Both	Both	mRNA	Both			mRNA	Both	Both		pDNA	Both	Both	Both	Both	mRNA	mRNA	Both	Both	Both	mRNA	Both	Both	Both	Both	Both	Both	Both	Both	

FIG. 1

(57) Abstract: The present invention relates to lipids that include novel triazole, and alkyl- and alkene-substituted amine compounds, intermediates in their synthesis, and uses of such triazole, and alkyl- and alkene-substituted amine compounds in, for example, lipid nanoparticle compositions for drug delivery and cancer treatments.

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