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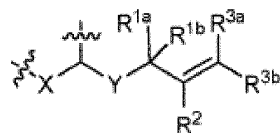
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(54) Title: NUCLEOSIDES AND NUCLEOTIDES WITH 3' ACETAL BLOCKING GROUP



(57) Abstract: The present invention concerns a nucleoside or nucleotide comprising a nucleobase attached to a detectable label via a cleavable linker, wherein the nucleoside or nucleotide comprises a ribose or 2' deoxyribose moiety and a 3'-OH blocking group, and wherein the cleavable linker comprises a moiety of the structure (I) wherein each of X and Y is independently O or S; and each of R^{1a}, R^{2b}, R², R^{3a} and R^{3b} is independently H, halogen, unsubstituted or substituted C₁-C₆ alkyl, or C₁-C₆ haloalkyl. Also provided herein are methods to prepare such nucleotide and nucleoside molecules, and the uses of fully functionalized nucleotides containing the 3' acetal blocking group for sequencing applications.



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