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**Balasubramanian et al.**

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## (54) LABELLED NUCLEOTIDES

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(30) **Foreign Application Priority Data**

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(51) **Int. Cl.**

**C12Q 1/68** (2006.01)  
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**C12M 1/34** (2006.01)  
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(52) **U.S. Cl.** ..... **435/6**; 435/91.1; 435/287.2; 536/23.1

(58) **Field of Classification Search** ..... 536/23.1; 435/6, 91.1, 287.2

See application file for complete search history.

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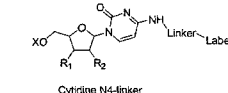
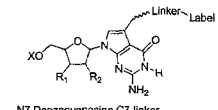
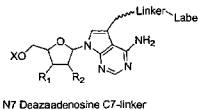
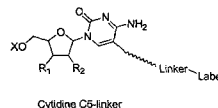
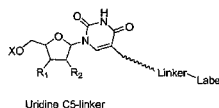
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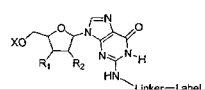
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(57) **ABSTRACT**

Nucleosides and nucleotides are disclosed that are linked to detectable labels via a cleavable linker group.

**15 Claims, 6 Drawing Sheets**

where R<sub>1</sub> and R<sub>2</sub>, which may be the same or different, are each selected from H, OH, or any group which can be transformed into an OH. Suitable groups for R<sub>1</sub> and R<sub>2</sub> are described in Figure 3

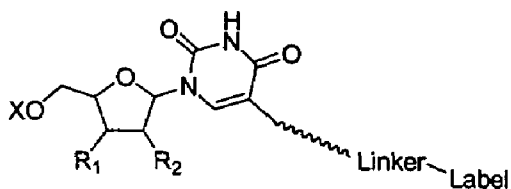


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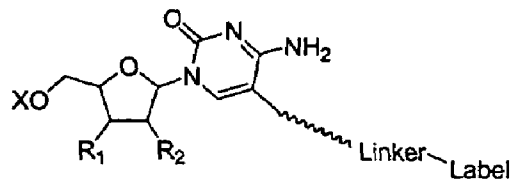
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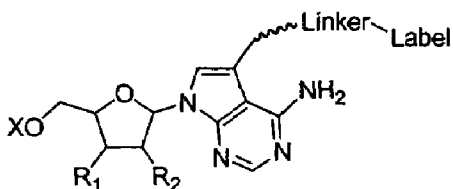
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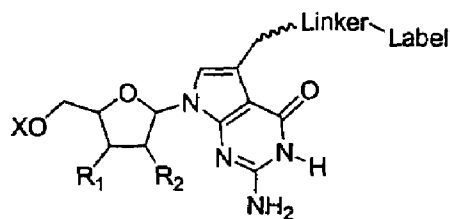
Uridine C5-linker



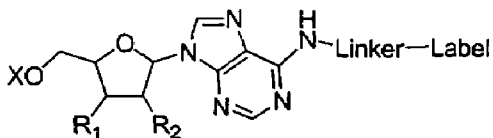
Cytidine C5-linker



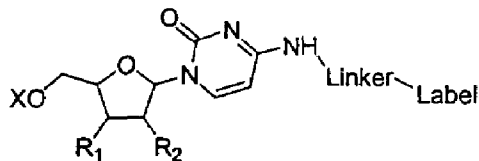
N7 Deazaadenosine C7-linker



N7 Deazaguanosine C7-linker



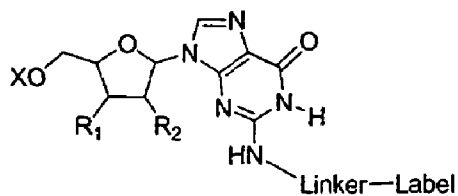
Adenosine N6-linker



Cytidine N4-linker

where  $R_1$  and  $R_2$ , which may be the same or different, are each selected from H, OH, or any group which can be transformed into an OH. Suitable groups for  $R_1$  and  $R_2$  are described in Figure 3

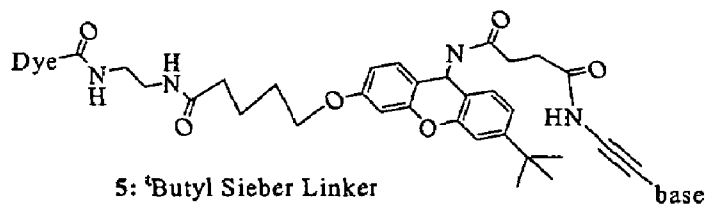
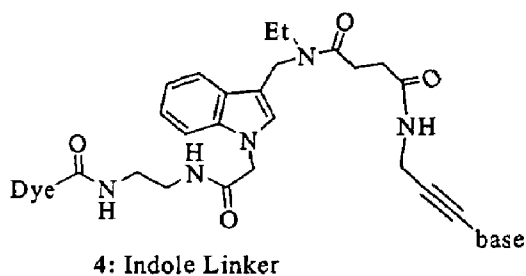
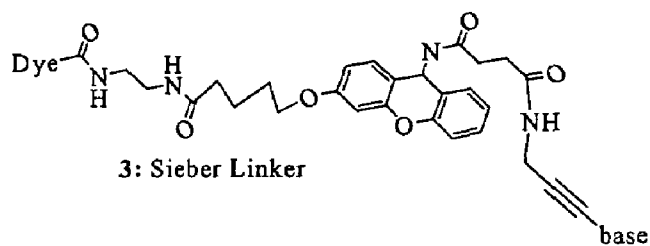
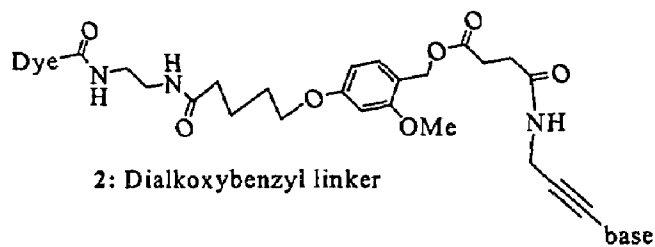
X = H, phosphate, diphosphate or triphosphate



Guanosine N2-linker

Fig. 1

Acid Labile Linkers



Disulfide Linker

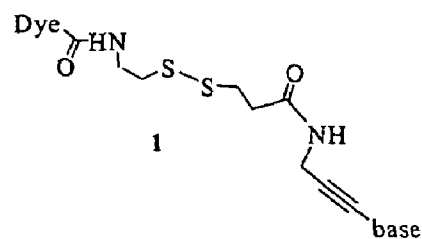


Fig. 2

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