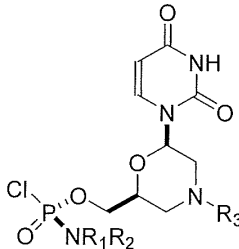
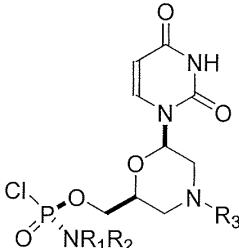
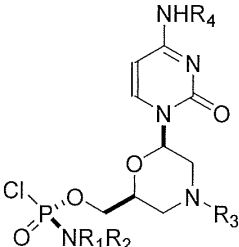
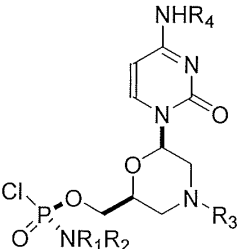
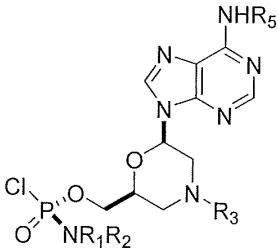
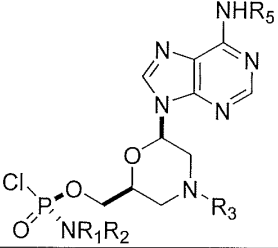
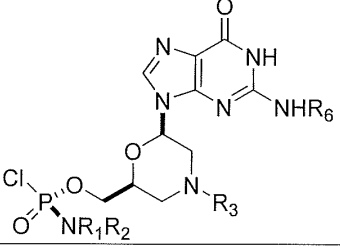
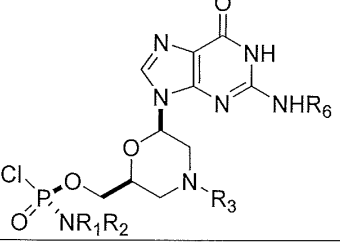
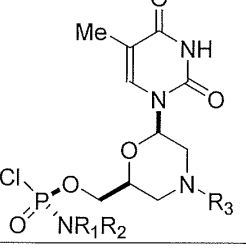
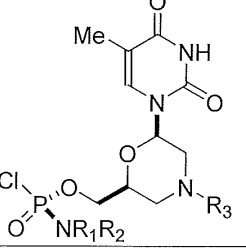
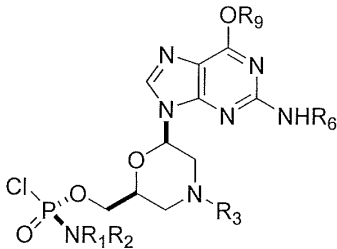
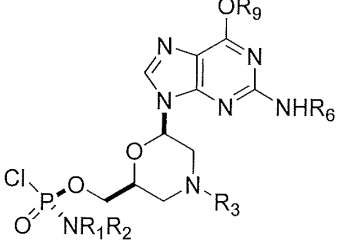


We claim:

1. A substantially diastereomerically pure compound selected from the group consisting of the compound of Formula 20, the compound of Formula 21, the compound of Formula 22, the compound of Formula 23, the compound of Formula 24, the compound of Formula 25, the compound of Formula 26, the compound of Formula 27, the compound of Formula 28, the compound of Formula 29, the compound of Formula 30, and the compound of Formula 31,

Compound	Formula #
	20
	21
	22
	23

	24
	25
	26
	27
	28
	29

	30
	31

wherein R_1 and R_2 may be the same or different, and are selected from the group consisting of -H, optionally substituted C_1 - C_3 alkyl, optionally substituted phenyl, optionally substituted naphthyl, or, with the nitrogen to which they are attached, form an optionally substituted heterocycle, which may be, for example, pyrrolidine, piperazine, and morpholine;

wherein R_3 is selected from the group consisting of trityl (Tr), which may be substituted trityl, including but not limited to such as MMTr (p-methoxyphenyldiphenylmethyl); optionally substituted benzyl, 4-methoxybenzyl (PMB, MPM), 3,4-dimethoxybenzyl, diphenylmethyl (Dpm), 4-methoxybenzyl, and sulfonyl;

R_4 , R_5 , and R_6 are selected from the group consisting of -H, $-C(O)R_7$, and $-C(O)OR_7$, where R_7 is C_1 - C_6 alkyl, benzyl, 2,2,2-trichloroethyl, and aryl;

R_9 is selected from the group consisting of optionally substituted alkyl, cyanoethyl, acyl, carbonate, carbamate, optionally substituted benzyl, 4-pivaloyloxy benzyl, and silyl,

and enantiomers thereof.

2. The compound of claim 1, wherein the sulfonyl is a cleavable sulfonyl selected from the group consisting of 2-nitrobenzenesulfonyl, 4-nitrobenzenesulfonyl, and 2,4-dinitrobenzenesulfonyl.
3. The compound of claim 1, wherein R_4 , R_5 , and R_6 are selected from the group consisting of phenyl, 4-methoxy phenyl, 4-bromophenyl, and 4-nitrophenyl.
4. A method for preparing a stereochemically pure oligonucleotide, comprising reacting substantially diastereomerically pure compounds of claim 1.

5. A method for preparing a substantially diastereomerically pure oligomer, comprising:
selecting a substantially stereochemically pure activated monomer; and
synthesizing a substantially diastereomerically pure oligomer from the selected substantially stereochemically pure activated monomer.
6. The method of claim 5, wherein the oligomer is an oligonucleotide comprising chiral phosphorous linkages.
7. The method of claim 5, further comprising:
separating a diastereomeric mixture of activated monomers into two substantially stereochemically pure monomers prior to the step of selecting a substantially stereochemically pure activated monomer.
8. The method of claim 5, wherein said substantially diastereomerically pure oligomer is at least 90% diastereomerically pure.
9. The method of claim 8, wherein said substantially diastereomerically pure oligomer is at least 95% diastereomerically pure.
10. The method of claim 9, wherein said substantially diastereomerically pure oligomer is at least 99% diastereomerically pure.
11. The method of claim 10, wherein said substantially diastereomerically pure oligomer is 100% diastereomerically pure.
12. A method for preparing a substantially diastereomerically pure phosphorodiamidate oligomer, comprising:
selecting a substantially stereochemically pure phosphoramidochloridate monomers; and
synthesizing a substantially diastereomerically pure phosphorodiamidate oligomer from the selected substantially stereochemically pure phosphoramidochloridate monomer.
13. The method of claim 12, further comprising separating a diastereomeric mixture of phosphoramidochloridates into two substantially stereochemically pure phosphoramidochloridate monomers prior to the step of selecting a substantially stereochemically pure phosphoramidochloridate monomer.
14. The method of claim 13, wherein the separation of the diastereomeric mixture occurs by at least one member of the group consisting of chromatography and crystallization.
15. The method of claim 12, wherein the phosphorodiamidate oligomer is a phosphorodiamidate morpholino oligomer.
16. A substantially diastereomerically pure composition comprising a substantially diastereomerically pure compound of claim 1.
17. A substantially diastereomerically pure composition comprising a substantially

diastereomerically pure compound of claim 2.

18. A substantially diastereomerically pure composition comprising a substantially diastereomerically pure compound of claim 3.

19. A substantially diastereomerically pure oligomer made by the method of claim 4.

20. A substantially diastereomerically pure oligomer made by the method of claim 5.

21. A substantially diastereomerically pure oligomer made by the method of claim 6.

22. A substantially diastereomerically pure oligomer made by the method of claim 7.

23. A substantially diastereomerically pure oligomer made by the method of claim 8.

24. A substantially diastereomerically pure oligomer made by the method of claim 9.

25. A substantially diastereomerically pure oligomer made by the method of claim 10.

26. A substantially diastereomerically pure oligomer made by the method of claim 11.

27. A pharmaceutical composition comprising a substantially diastereomerically pure oligomer of one of claims 19-27, or a pharmaceutically acceptable salt thereof.