Title (en)

PYRROLES SUBSTITUTED BY OLIGONUCLEOTIDES

Title (de)

DURCH OLIGONUKLEOTIDESUBSTITUIERTE PYRROLE

Title (fr)

PYRROLES SUBSTITUES AVEC DES OLIGONUCLEOTIDES

Publication

EP 1578759 A1 20050928 (FR)

Application

EP 03814482 A 20031216

Priority

- FR 0303747 W 20031216
- FR 0216184 A 20021219

Abstract (en)

[origin: FR2849038A1] Pyrrole compounds (I), C-substituted by an oligonucleotide via a spacer arm, are new. Oligonucleotide-substituted pyrrole compounds of formula (I) are new. R1 = oligonucleotide (ONT); Y = S or O; X = spacer arm selected from -(CH2)n-O-, -(CH2)p-O-((CH2)2-O)q-, -(CH2)r-CO-NR'-(CH2)t-O-, -(CH2)r-N(Me)-(CH2)t-O-, -(CH2)r-CO-NR'-((CH2)2-O)s- or -(CH2)r-N(Me)-((CH2)2-O)s-; R' = undefined; n = 1-5; p = 1 or 2; q = 1-4; r, s, t = 1-3; The pyrrole ring is substituted in the 2-, 3-, 4- or 5-position. Independent claims are included for: (1) the preparation of (I); (2) new substituted pyrrole derivative intermediates of formula (IV); (3) the production of ONT-functionalized, electro-active, conductive copolymers (A) by: (a) electrochemically copolymerizing (I; pyrrole substituted in the 3-position) (I') with at least one substituted pyrrole comonomer (II) (preferably in a (I'):(II) molar ratio of 1:1000-100000); (b) electrochemically polymerizing (II), then electrochemically graft polymerizing (I') (or copolymerizing (I') and (II), preferably in a molar ratio of 1:1000-100000) onto the obtained electroactive conductive polymer; or (c) electrochemically polymerizing (II), then electrochemically coupling (I; pyrrole substituted in the 2-position) with the obtained electroactive conductive polymer; and (4) the new copolymers (A) obtained by the above processes. R2 = amino-protecting group selected from mono- or dimethoxytrityl, tosyl, triisopropylsilyl, tert. butoxycarbonyl, 9-fluorenyloxycarbonyl, benzyloxycarbonyl and acetyl; R3 = phosphorus-containing group reactive with free hydroxy, selected from phospho-triester, H-phosphonate and phosphoramidite.

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CPC (source: EP)

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