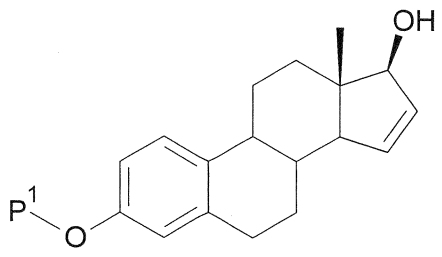
CLAIMS ~~according to Art. 34 PCT~~

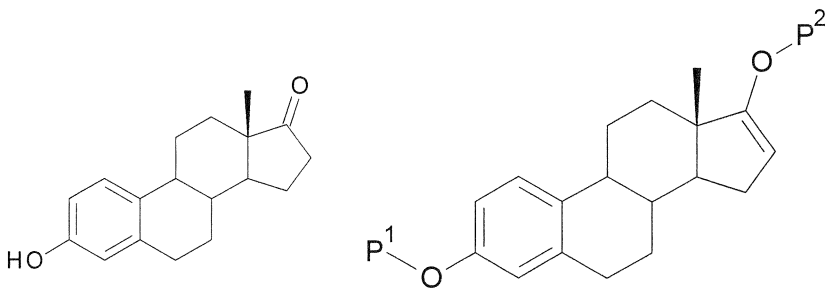
1. A process for the preparation of a compound of formula (I)



(I)

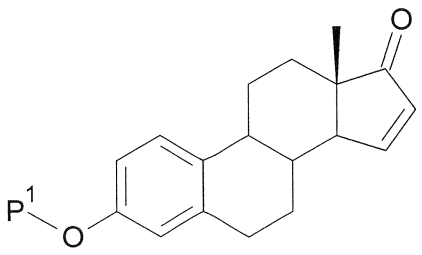
said process comprising the steps of

a) reacting a compound of formula (II), with an acylating or a silylating agent to produce a compound of formula (III), wherein P^1 and P^2 are each independently a protecting group selected from R^2-Si-R^3R^4, or R^1CO-, wherein R^1 is a group selected from C_{1-6}alkyl or C_{3-6}cycloalkyl, each group being optionally substituted by one or more substituents independently selected from fluoro or C_{1-4}alkyl; R^2, R^3 and R^4 are each independently a group selected from C_{1-6}alkyl or phenyl, each group being optionally substituted by one or more substituents independently selected from fluoro or C_{1-4}alkyl;



(II) (III)

b) reacting the compound of formula (III) in the presence of palladium acetate or a derivative thereof to produce compound of formula (IV); and



(IV)

c) reacting the compound of formula (IV) with a reducing agent to produce compound of formula (I).

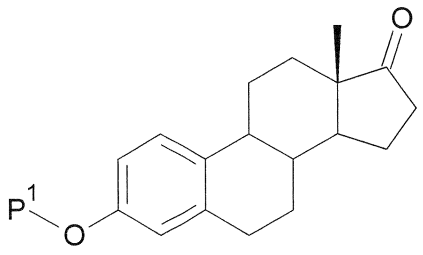
2. The process according to claim 1, wherein P^1 is R^1CO-.

3. The process according to claim 1, wherein P^1 is R^2-Si-R^3R^4.

4. The process according to claim 3, wherein P^2 is R^2-Si-R^3R^4.

5. The process according to any of claims 1 to 3, wherein P^2 is R^1CO-.

6. The process according to claim 5, wherein step (a) comprises the steps of (a1) protecting the hydroxyl of compound of formula (II) with a silylating agent to produce a compound of formula (IIa), wherein P^1 has the same meaning as that defined in claim 3; and



(IIa)

(a2) protecting the ketone of compound of formula (IIa) in the presence of an acylating agent to produce compound of formula (III).

7. Process according to any of claims 1 to 3, 5, and 6 wherein the acylating agent is C_{2-6}alkenylC_{1-6}alkanoate or C_{2-6}alkenylC_{3-6}cycloalkanoate.

8. Process according to any of claims 1, 3 to 7, wherein the silylating agent is selected from the group comprising C_{1-6}alkylsilylchloride, C_{1-6}alkylsilyltriflate, phenylsilyl chloride, phenylsilyltriflate, C_{1-6}alkylphenylsilylchloride, C_{1-6}alkylphenylsilyltriflate, each group being optionally substituted by one or more substituents independently selected from fluoro or C_{1-4}alkyl.

9. The process according to any of claims 1 to 8, wherein step (b) is performed in the presence of a C_{1-6}alkylene carbonate and an organotin compound.

10. The process according to any of claims 1 to 9, wherein said palladium acetate is present in stoichiometric amounts.

11. The process according to any of claims 1 to 9, wherein said reaction is performed with palladium acetate present in catalytic or sub-stoichiometric amounts, preferably the reaction is performed in an oxygen atmosphere.

12. The process according to any of claims 1 to 11, wherein the reducing agent in step (c) is selected from the group of metal hydride compounds.

13. The process according to claim 12, wherein the metal hydride compound is selected from the group comprising $NaBH_4/CeCl_3$, $LiAlH_4$, $NaBH_4$, $NaBH(OAc)_3$, and $ZnBH_4$.

14. Process for the preparation of estetrol, said process comprising preparing a compound of formula (I) by a process according to any of claims 1 to 13 and further reacting compound of formula (I) to produce estetrol.