CLAIMS

1. A process for the preparation of a first compound selected from peptides, oligonucleotides, and peptide nucleic acids; the process comprising:

(i) synthesising the first compound by liquid phase synthesis in an organic solvent; and

(ii) separating the first compound formed in step (i) from a second compound, which is a reaction by-product of the synthesis of the first compound and/or an excess of a reagent used for the synthesis of a first compound,

wherein:

the synthesis of the first compound in step (i) involves one or more coupling or deprotection reactions;

the first and second compounds are dissolved in an organic solvent and are separated by a process of diafiltration using a membrane that is stable in the organic solvent and which provides a rejection for the first compound which is greater than the rejection for the second compound; and

the process comprises subjecting the first compound to one or more coupling and/or deprotection reactions subsequent to separation.

2. A process according to claim 1, wherein the organic solvent is the same as that used for the diafiltration.

3. A process according to claim 1 or claim 2, which further comprises purifying the modified compound using a diafiltration process as defined in step (ii) of claim 1.

4. A process according to any of claims 1, 2 or 3, wherein the membrane is a polymeric membrane.

5. A process according to any of claims 1 to 3, wherein the membrane is a ceramic membrane.

6. A process according to any of claims 1 to 3, wherein the membrane is a mixed matrix organic/inorganic membrane.

7. A process according to any preceding claim, wherein the first compound is attached to a support.

8. A process according to claim 7, wherein the support is a polymer support.

9. A process according to claim 8, wherein the support comprises a dendrimer or hyperbranched polymer.

10. A process according to claim 7, wherein the support is an organic or inorganic nanoparticle.

11. A process according to claim 1, wherein the first compound has a molecular weight greater than 500 daltons.

12. Use of a filtration membrane in the process of any preceding claim.

CLAIMS

1. A process for the preparation of a first compound selected from oligonucleotides and peptide nucleic acids; the process comprising:

(i) synthesising the first compound by liquid phase synthesis in an organic solvent; and

(ii) separating the first compound formed in step (i) from a second compound, which is a reaction by-product of the synthesis of the first compound and/or an excess of a reagent used for the synthesis of a first compound,

wherein:

the synthesis of the first compound in step (i) involves one or more coupling or deprotection reactions;

the first and second compounds are dissolved in an organic solvent and are separated by a process of diafiltration using a membrane that is stable in the organic solvent and which provides a rejection for the first compound which is greater than the rejection for the second compound;

the first compound is modified by subjecting it to one or more coupling and/or deprotection reactions subsequent to separation.

2. A process for the preparation of a first compound being a peptide; the process comprising:

(i) synthesising the first compound by liquid phase synthesis in an organic solvent; and

(ii) separating the first compound formed in step (i) from a second compound, which is a reaction by-product of the synthesis of the first compound and/or an excess of a reagent used for the synthesis of a first compound,

wherein:

the synthesis of the first compound in step (i) involves one coupling reaction;

the first and second compounds are dissolved in an organic solvent and are separated by a process of diafiltration using a membrane that is stable in the organic solvent and which provides a rejection for the first compound which is greater than the rejection for the second compound;

the first compound is modified by subjecting it to one or more coupling and/or deprotection reactions subsequent to separation.

3. A process according to claim 1 or 2, wherein the organic solvent is the same as that used for the diafiltration.

4. A process according to claim 1, 2 or 3, which further comprises purifying the modified first compound using a diafiltration process as defined in step (ii) of claim 1.

5. A process according to any preceding claim, wherein the membrane is a polymeric membrane.

6. A process according to any of claims 1 to 4, wherein the membrane is a ceramic membrane.

7. A process according to any one of claims 1 to 4, wherein the membrane is a mixed matrix organic/inorganic membrane.

8. A process according to any preceding claim, wherein the first compound is attached to a support.

9. A process according to claim 8, wherein the support is a polymer support.

10. A process according to claim 9, wherein the support comprises a dendrimer or hyperbranched polymer.

11. A process according to claim 8, wherein the support is an organic or inorganic nanoparticle.

12. A process according to claim 1 or 2, wherein the first compound has a molecular weight greater than 500 daltons.

13. Use of a membrane in a process for the preparation of a first compound selected from oligonucleotides and peptide nucleic acids as claimed in claim 1; wherein the first and second compounds are dissolved in an organic solvent and are separated by a process of diafiltration using a membrane that is stable in the organic solvent and which provides a rejection for the first compound which is greater than the rejection for the second compound.

14. Use of a membrane in a process for the preparation of a first compound as claimed in claim 2; wherein the first and second compounds are dissolved in an organic solvent and are separated by a process of diafiltration using a membrane that is stable in

the organic solvent and which provides a rejection for the first compound which is greater than the rejection for the second compound.