CLAIMS

1. Apparatus, comprising:

a support, comprising an outer surface and configured for insertion into a body of a subject;

an inner layer of an inner polymer, which coats the outer surface of the support;

multiple atoms of a radionuclide, which radioactively decays to produce a daughter radionuclide, coupled to the inner layer,

the inner layer allowing diffusion of the daughter radionuclide therethrough; and

an outer layer of an outer polymer, which covers the atoms so as to protect the atoms from being washed away, yet allows diffusion of the daughter radionuclide through the outer layer.

2. The apparatus according to claim 1, wherein the atoms are disposed on the inner layer.

3. The apparatus according to any one of claims 1-2, wherein the support is cylindrically-shaped.

4. The apparatus according to any one of claims 1-3, wherein the radionuclide is an alpha-emitting radionuclide.

5. The apparatus according to any one of claims 1-4, wherein the radionuclide comprises an isotope of radium selected from the group of isotopes consisting of: Ra-224 and Ra-223.

6. The apparatus according to any one of claims 1-5, wherein the daughter radionuclide is an alpha-emitting daughter radionuclide.

7. The apparatus according to any one of claims 1-6, wherein an outer-layer thickness of the outer layer is between 0.1 and 2 microns.

8. The apparatus according to claim 7, wherein the outer-layer thickness is between 0.1 and 1 microns.

9. The apparatus according to any one of claims 1-8, wherein an outer-polymer diffusion coefficient of the daughter radionuclide in the outer polymer is at least 10^{-11} cm^2/sec.

10. The apparatus according to any one of claims 1-9, wherein the outer polymer is selected from the group of polymers consisting of: polypropylene, polycarbonate, polydimethylsiloxane, polyethylene terephthalate, poly(methyl methacrylate), and polysulfone.

11. The apparatus according to any one of claims 1-10, wherein an inner-layer thickness of the inner layer is between 0.1 and 2 microns.

12. The apparatus according to claim 11, wherein the inner-layer thickness is between 0.1 and 1 microns.

13. The apparatus according to any one of claims 1-12, wherein an inner-polymer diffusion coefficient of the daughter radionuclide in the inner polymer is at least 10^{-11} cm^2/sec.

14. A method, comprising:

coating an outer surface of a support, which is configured for insertion into a body of a subject, with an inner layer of an inner polymer;

coupling multiple atoms of a radionuclide, which radioactively decays to produce a daughter radionuclide, to the inner layer,

the inner layer allowing diffusion of the daughter radionuclide therethrough; and

subsequently to coupling the atoms to the inner layer, covering the atoms with an outer layer of an outer polymer that protects the atoms from being washed away, yet allows diffusion of the daughter radionuclide through the outer layer.

15. The method according to claim 14, wherein the support is cylindrically-shaped.

16. The method according to any one of claims 14-15, wherein covering the atoms comprises covering the atoms by withdrawing the support from a solution of the outer polymer.

17. The method according to any one of claims 14-16, wherein the radionuclide is an alpha-emitting radionuclide.

18. The method according to any one of claims 14-17, wherein the radionuclide includes an isotope of radium selected from the group of isotopes consisting of: Ra-224 and Ra-223.

19. The method according to any one of claims 14-18, wherein the daughter radionuclide is an alpha-emitting daughter radionuclide.

20. The method according to any one of claims 14-19, wherein an outer-layer thickness of the outer layer is between 0.1 and 2 microns.

21. The method according to claim 20, wherein the outer-layer thickness is between 0.1 and 1 microns.

22. The method according to any one of claims 14-21, wherein an outer-polymer diffusion coefficient of the daughter radionuclide in the outer polymer is at least 10^{-11} cm^2/sec.

23. The method according to any one of claims 14-22, wherein the outer polymer is selected from the group of polymers consisting of: polypropylene, polycarbonate, polydimethylsiloxane, polyethylene terephthalate, poly(methyl methacrylate), and polysulfone.

24. The method according to any one of claims 14-23, wherein an inner-layer thickness of the inner layer is between 0.1 and 2 microns.

25. The method according to claim 24, wherein the inner-layer thickness is between 0.1 and 1 microns.

26. The method according to any one of claims 14-25, wherein coupling the atoms to the inner layer comprises coupling the atoms to the inner layer by depositing the atoms onto the inner layer.