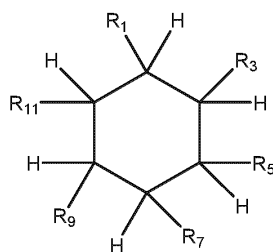


CLAIMS

1. A compound of general formula I, or a pharmaceutically acceptable salt thereof:

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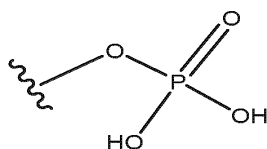
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I

wherein:

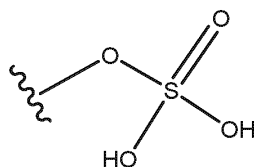
(i) R_1 , R_3 , R_5 , R_7 , R_9 , and R_{11} are independently selected from OH, a radical of formula II, III, IV and a heterologous moiety:

15

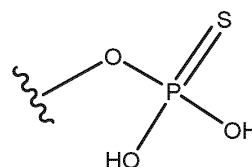


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II



III



IV

(ii) at least one of R_1 , R_3 , R_5 , R_7 , R_9 , and R_{11} is selected from a radical of formula II, III and IV; and

(iii) zero, one, two or three of R_1 , R_3 , R_5 , R_7 , R_9 , and R_{11} is a heterologous moiety;

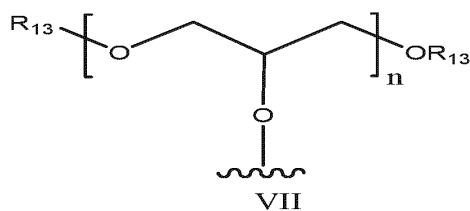
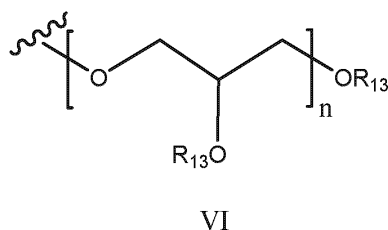
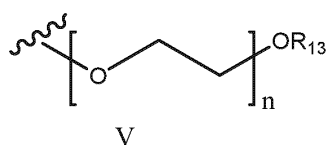
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for use in the treatment, inhibition of progression, or prevention of cardiovascular calcification, or a disease, condition or symptom associated with cardiovascular calcification in a subject in need thereof, wherein (a) the compound is in a form suitable for parenteral, topical, or enteral administration, and (b) the compound is administered to the subject in a non-bolus prolonged release form in an effective dosage of about 200 mg to about 700 mg per administration.

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2. The compound according to claim 1, wherein the heterologous moiety is selected from a radical of formula V, a radical of formula VI and a radical of formula VII:

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wherein: n is an integer in the range from 2 to 200, and
 R_{13} is selected from H, methyl, and ethyl.

15

3. The compound according to any one of claims 1-2, wherein the cardiovascular calcification is coronary artery calcification, aortic artery calcification, or aortic valve calcification.

20

4. The compound according to any one of claims 1-3, wherein the compound of formula I is inositol hexaphosphate.

5. The compound according to claim 4, wherein the inositol hexaphosphate is myo-inositol hexaphosphate.

25

6. The compound according to any one of claims 4-5, wherein the inositol hexaphosphate is in its hexasodium salt form.

7. The compound according to any one of claims 1-3, wherein one or two of R_1 , R_3 , R_5 , R_7 , R_9 , and R_{11} is selected from a radical of formula V, VI and VII.

30

8. The compound according to claim 7, wherein R_1 , R_5 , R_9 , and R_{11} are a radical of formula II and R_3 and R_7 are a radical of formula V.

35

9. The compound according to claim 8, wherein the radical of formula V has n in the range from 2 to 200 and R_{13} is H.

10. A pharmaceutical composition for use in the treatment, inhibition of progression, or prevention of cardiovascular calcification in a subject in need thereof comprising the compound according to any one of claims 1-9 and pharmaceutically acceptable excipients and carriers.

5

11. A pharmaceutical composition for use in the treatment, inhibition of progression, or prevention of cardiovascular calcification in a subject in need thereof comprising myo-inositol hexaphosphate and pharmaceutically acceptable excipients and carriers.

10 12. The compound according to any one of claims 1-9 or the pharmaceutical composition according to any one of claims 10-11, wherein the subject is with kidney failure.

13. The compound according to any one of claims 1-9 or the pharmaceutical
15 composition according to any one of claims 10-11, wherein the subject is on dialysis.

14. The compound or pharmaceutical composition according to any one of claims 1-13, wherein the parenteral administration is intravenous, subcutaneous, intramuscular or by intravenous infusion.

20 15. The compound or pharmaceutical composition according to claim 14, wherein the intravenous infusion is administered using a dialysis apparatus.

16. The compound or pharmaceutical composition according to any one of claims 1-15, wherein the subject is human.

25

17. The compound or pharmaceutical composition according to any one of claims 1-16, wherein the compound is administered to the subject in a dosage of about 250 mg to about 650 mg per administration to the subject.

30 18. The compound or pharmaceutical composition according to any one of claims 1-17, wherein compound is administered to the subject in a dosage of about 300 mg to about 600 mg per administration to the subject.

19. The compound or pharmaceutical composition according to any one of claims 1-18, wherein compound is administered to the subject in a dosage of about 350 mg to 550 mg per administration to the subject.
- 5 20. The compound or pharmaceutical composition according to any one of claims 1-19, wherein the dosage is administered in single daily doses.
21. The compound or pharmaceutical composition according to any one of claims 1-20, wherein the dosage is administered as multiple daily doses.
- 10 22. The compound or pharmaceutical composition according to any one of claims 1-21, wherein the dosage is administered at least once a week.
23. The compound or pharmaceutical composition according to any one of claims 1-22, wherein the dosage is administered 2, 3, 4, 5, 6 or 7 times per week.
- 15 24. The compound or pharmaceutical composition according to any one of claims 1-23, wherein the dosage is administered for at least one week.
- 20 25. The compound or pharmaceutical composition according to any one of claims 1-24, wherein the dosage is administered for about 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, or 52 weeks.
- 25 26. A combined preparation comprising (a) the compound according to any one of claims 1-9 or the pharmaceutical composition according to any one of claims 10-11 and (b) at least one second active agent.