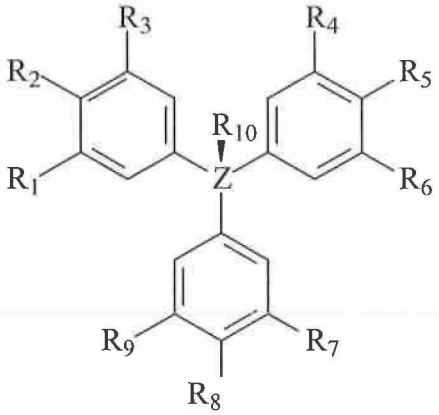
What is claimed is:

1. The use of a compound represented by the structure of formula I:



I

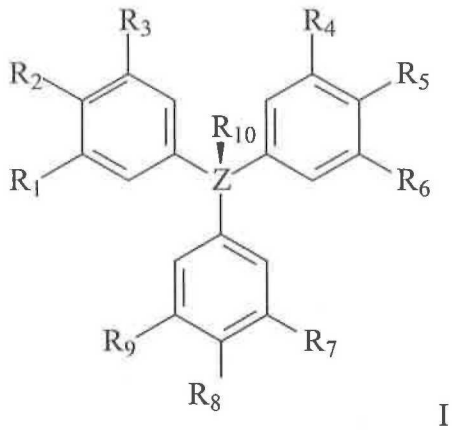
wherein

Z is carbon or phosphorus;

R_1 to R_9 are the same or different, H, D, OH, halogen, nitro, CN, nitrileamido, amidosulfide, amino, aldehyde, substituted ketone, -COOH, ester, trifluoromethyl, amide, substituted or unsubstituted alkyl, alkenyl, alkynyl, aryl, arylalkyl, alkylaryl, arylsulfonyl, arylalkylenesulfonyl, alkoxy, alkylalkoxy, haloalkyl, alkylhaloalkyl, haloaryl, aryloxy, amino, monoalkylamino, dialkylamino, alkylamido, arylamino, arylamido. alkylthio, arylthio, heterocycloalkyl, alkylheterocycloalkyl, heterocycloalkylalkyl, heteroaryl, hetroarylalkyl, alkylheteroaryl; or R_3, R_4, or R_7, forms a fused cycloalkyl, heterocycloalkyl, aromatic or heteroaromatic ring with the main aromatic ring; and

R_{10} is nothing when Z is phosphorus, and OH or C_{1-6} alkyl when Z is carbon, in the manufacture of a medicament for treating diabetes or diabetes related complications in a subject in need thereof.

2. The use of a compound represented by the structure of formula I:



I

wherein

Z is carbon or phosphorus;

R_1 to R_9 are the same or different, H, D, OH, halogen, nitro, CN, nitrileamido, amidosulfide, amino, aldehyde, substituted ketone, -COOH, ester, trifluoromethyl, amide, substituted or unsubstituted alkyl, alkenyl, alkynyl, aryl, arylalkyl, alkylaryl, arylsulfonyl, arylalkylenesulfonyl, alkoxy, alkylalkoxy, haloalkyl, alkylhaloalkyl, haloaryl, aryloxy, amino, monoalkylamino, dialkylamino, alkylamido, arylamino, arylamido. alkylthio, arylthio, heterocycloalkyl, alkylheterocycloalkyl, heterocycloalkylalkyl, heteroaryl, hetroarylalkyl, alkylheteroaryl; or R_3, R_4, or R_7, forms a fused cycloalkyl, heterocycloalkyl, aromatic or heteroaromatic ring with the main aromatic ring; and

R_{10} is nothing when Z is phosphorus, and OH or C_{1-6} alkyl when Z is carbon, in the manufacture of a medicament for reducing circulating glucose levels, reducing insulin resistance, stimulating or increasing insulin sensitivity, stimulating or increasing pancreatic beta-cell mass, or stimulating or increasing creatinine clearance in a subject in need thereof, or preventing or reducing renal damage in a diabetic subject in need thereof.

3. The use of claim 1 or 2, wherein said medicament comprises a second agent, which is useful in the treatment of diabetes or diabetes related complications.

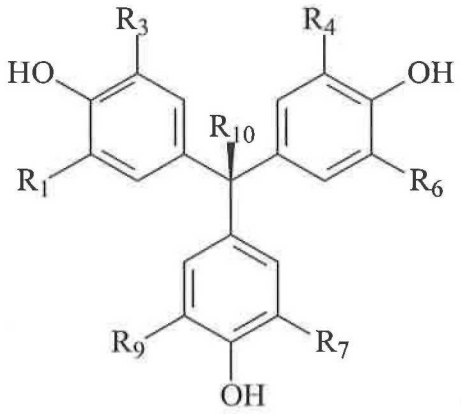
4. The use of claim 1 or 2, wherein said medicament is to be provided to a subject in combination with a second agent as adjunct therapy which second agent is useful in the treatment of diabetes or diabetes related complications.

5. The use of claim 1 or 2, wherein said medicament comprises a second agent, which is useful in the reduction of circulating glucose levels, reduction of insulin resistance, stimulation or increase of insulin sensitivity, stimulation or increase of pancreatic beta-cell

mass, or stimulation or increase of creatinine clearance in a subject, or prevention or reduction of renal damage.

6. The use of claim 1 or 2, wherein said medicament is to be provided to a subject in combination with a second agent as adjunct therapy which second agent is useful in the reduction of circulating glucose levels, reduction of insulin resistance, stimulation or increase of insulin sensitivity, stimulation or increase of pancreatic beta-cell mass, or stimulation or increase of creatinine clearance in a subject, or prevention or reduction of renal damage.

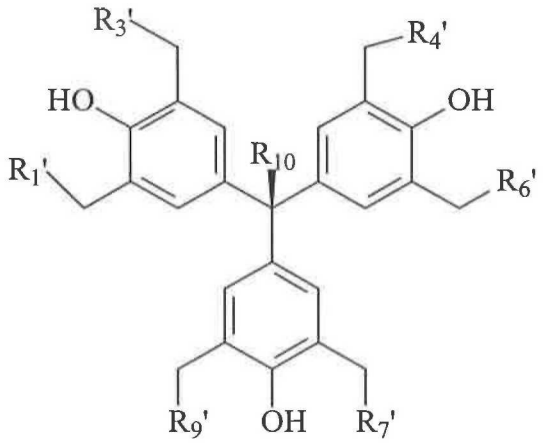
7. The use of claim 1 or 2, wherein said compound is represented by the structure of formula II:



II

wherein R_1, R_3, R_4, R_6, R_7, R_9 and R_{10} are as described above.

8. The use of claim 1 or 2, wherein said compound is represented by the structure of formula VI:

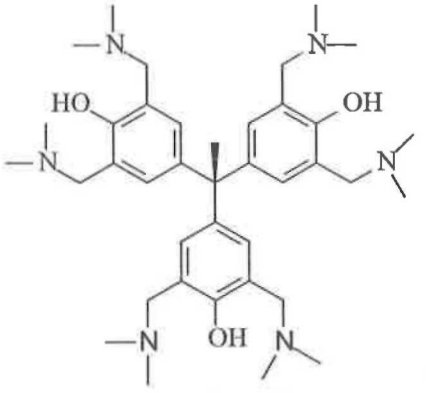


VI

wherein R_1', R_3', R_4', R_6' R_7', and R_9' are the same or different comprising halogen, aryl, alkyl, cycloalkyl, heterocycloalkyl, alkoxy, monoalkylamino, dialkylamino or arylamino; and

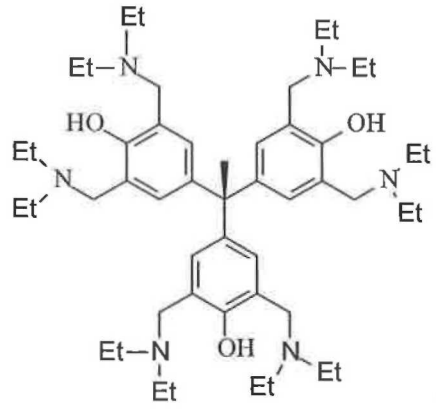
R_{10} is as described above.

9. The use of claim 1 or 2, wherein said compound is represented by the structure of formula VII:



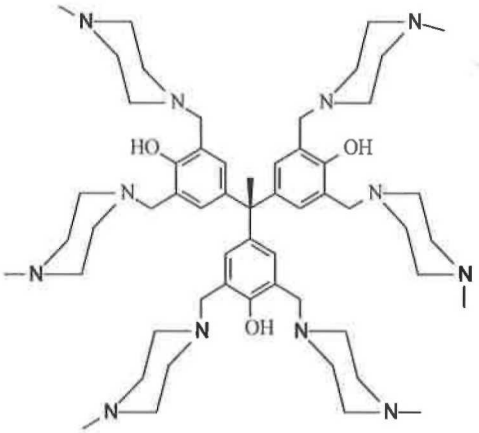
VII.

10. The use of claim 1 or 2, wherein said compound is represented by the structure of formula VIII:



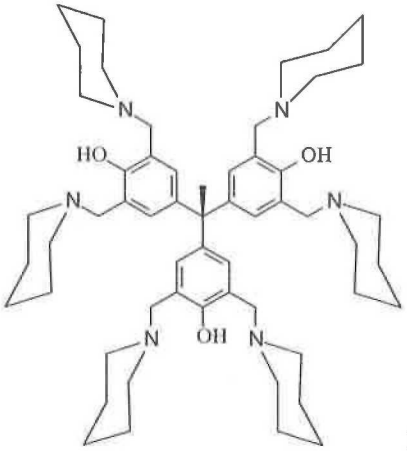
VIII.

11. The use of claim 1 or 2, wherein said compound is represented by the structure of formula IX:



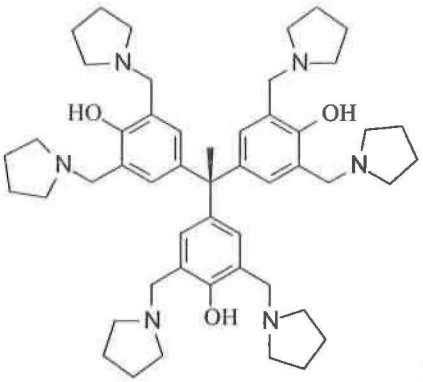
IX.

12. The use of claim 1 or 2, wherein said compound is represented by the structure of formula X:



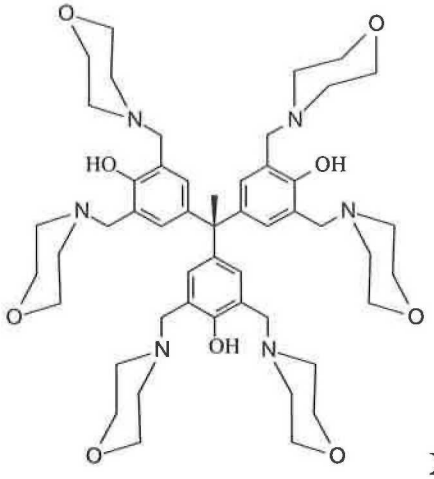
X.

13. The use of claim 1 or 2, wherein said compound is represented by the structure of formula XI:



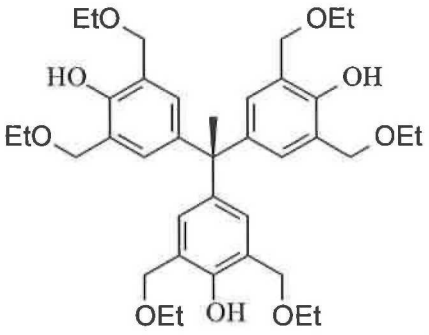
XI.

14. The use of claim 1 or 2, wherein said compound is represented by the structure of formula XII:



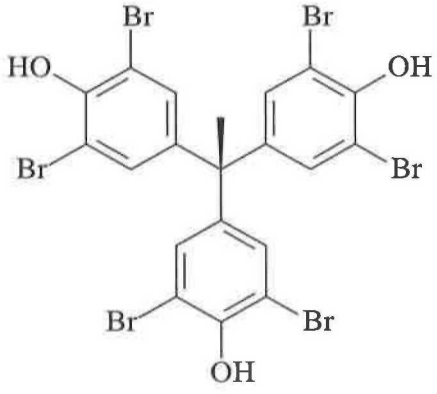
XII.

15. The use of claim 1 or 2, wherein said compound is represented by the structure of formula XIII:



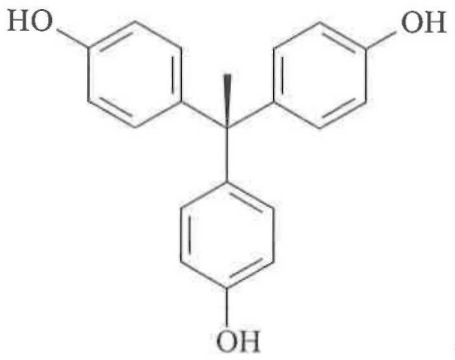
XIII.

16. The use of claim 1 or 2, wherein said compound is represented by the structure of formula XIV:



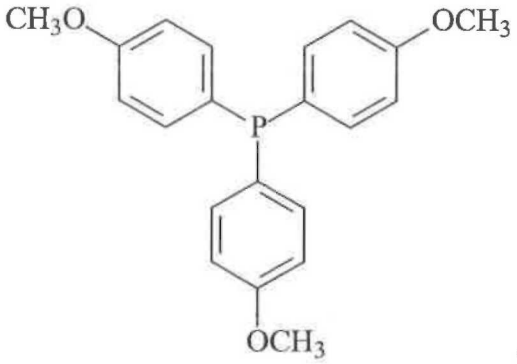
XIV.

17. The use of claim 1 or 2, wherein said compound is represented by the structure of formula XV:



XV.

18. The use of claim 1 or 2, wherein said compound is represented by the structure of formula XVI:



XVI.

19. The use of claim 1, wherein Z is carbon, R_2, R_5 and R_8 are OH, and R_{10} is C_{1-4} alkyl.

20. The use of claim 19, wherein R_{10} is methyl.

21. The use of claim 2, wherein Z is carbon, R_2, R_5 and R_8 are OH, and R_{10} is C_{1-4} alkyl.

22. The use of claim 21, wherein R_{10} is methyl.