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CARBOSILANE DENDRIMERS WITH POLYPHENOLIC GROUPS. USES AS ANTIOXIDANTS AND ANTICANCER

Patent

ES2543640

Code

BIO_UAH_21

Application areas

- Biological Sciences
- Agrofood Industry
- Pharmaceutical and Cosmetics



Type of Collaboration

- Technical cooperation
- Commercial agreement
- License agreement

Main Researcher

Prof. Fco. Javier de la Mata
de la Mata

CONTACT



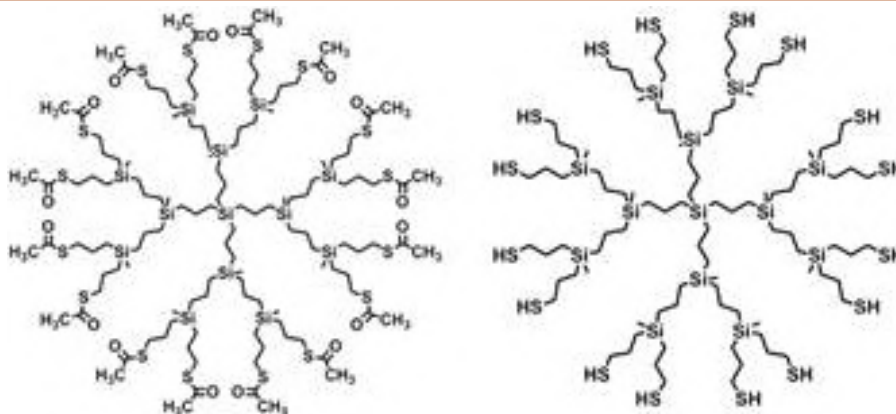
OTRI Universidad de Alcalá
Escuela Politécnica Superior
Campus Científico-Tecnológico
28805, Alcalá de Henares
(Madrid)
(+34) 91 885 45 61
otriuah@uah.es



@otriuah



OTRI Universidad de Alcalá



ABSTRACT

The present invention gives rise to highly branched dendritic macromolecules synthesized from a polyfunctional nucleus, called dendrimers, of carbosilane structure, that is, they contain in their structure silicon-carbon bonds and functionalized in their periphery with thiol groups. In addition, the invention provides a process for obtaining them and their uses as antioxidants.

The dendrimers of the invention can have application in different fields such as cosmetics, among which its use as antioxidants is worth mentioning since they can protect products that are particularly sensitive to oxidation. For example, in hair care compositions such as shampoos, lotions, gels, emulsions or hairsprays, which can be applied before or after different hair treatments, such as dyeing, wicks, hair discoloration, as well as permanent or smoothed among others.

They can also be used as antioxidants in skin care products or makeup products, in mascara for lashes and eyebrows, anti-aging creams, lengthening the durability of lipsticks, eye shadows, blushers, eyeliners or nail polish. Also in the care of the skin as constituents of lotions, creams and milk cleansing.

ADVANTAGES AND INNOVATIONS

- Respond predictably in solution
- They can be extensively modified to carry multiple ligands with biological activity
- They can cross biological barriers
- Dendrimers are multivalent systems that allow the incorporation of multiple functionalities-SH on the surface of a single molecule increasing the concentration of active centers per molecule and therefore enhancing the antioxidant capacity of the system
- In addition, they can be used as anchoring platforms for different molecules through click chemistry processes such as the addition of thiolene
- The commercial thiol derivatives used in cosmetics have the inconvenient of the characteristic bad smell of the compounds with sulfur, while in the dendrimers referred to in this invention, that odor is much less intense, being more pleasant its use