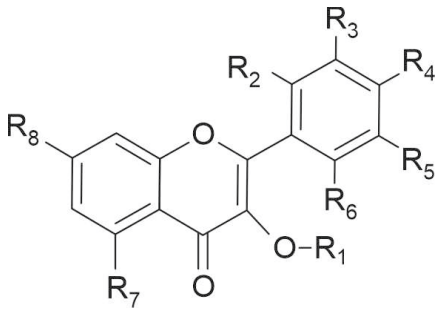
CLAIMS

1. A pharmaceutical composition for use in the senotherapeutic treatment of a disorder in which the accumulation of senescent cells contributes to the onset or to the progression of said disorder comprising, as active ingredient, a synthetic derivative of flavones, according to the formula (I):



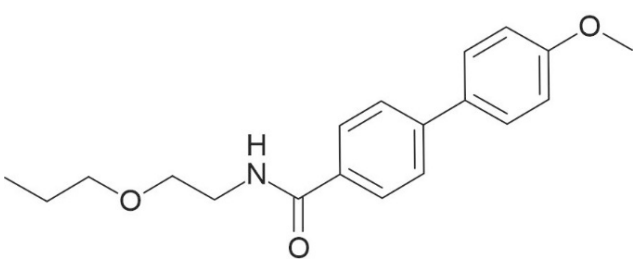
(I)

wherein at least two of R_2-R_6 are H, and the remaining are individually chosen from: H, OH, R_1, OR_1, NO_2, NH_2, NHR_1, F, Cl, Br, I,

where R1 is selected from

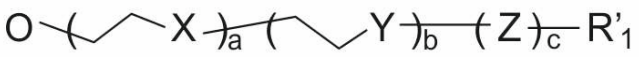
- C_{1-24} alkyl or hetero-alkyl, C_{1-24} alkenyl or hetero-alkenyl; C_{1-24} alkynyl or hetero-alkynyl; or
- acyl residue of a fatty acid, said fatty acid being saturated, unsaturated or polyunsaturated and of synthetic or natural origin;

R1 is connected to the oxygen atom of said formula (I) through its left open bond and has the following structure:



- R_1 is:

°



- where R'$_1$ is chosen from:
- C_{1-24} alkyl or hetero-alkyl, C_{1-24} alkenyl or hetero-alkenyl; C_{1-24} alkynyl or hetero-alkynyl
- acyl residue of a fatty acid,
- a linker L,

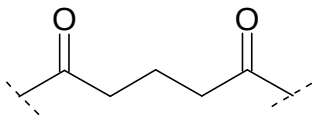
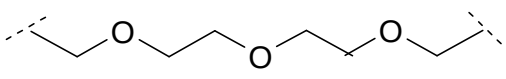
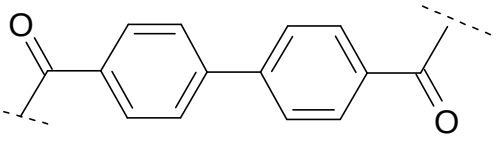
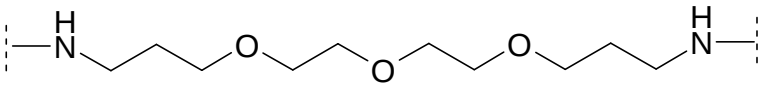
- where a, b, c are each between 0 and 12,
- where X, Y and Z are each individually chosen from: CH2, O, N(R1), S, NH, SO, SO2, OC(O), CO, NHC(O), C(O)NH, NH-C(O)-NH, NH-C(S)-NH.

2. Senotherapeutic compound according to claim 1, wherein:

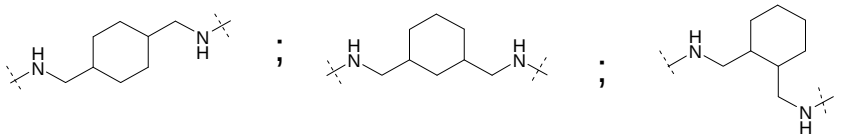
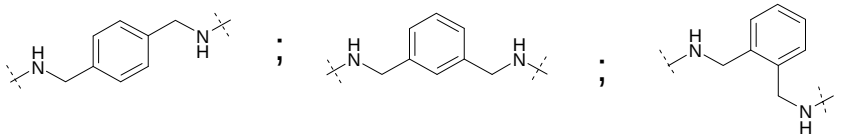
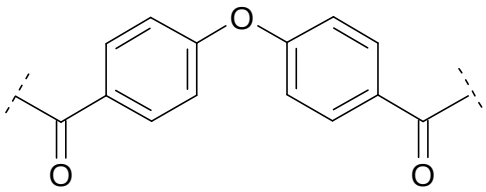
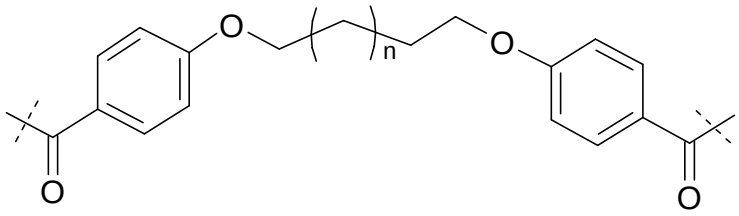
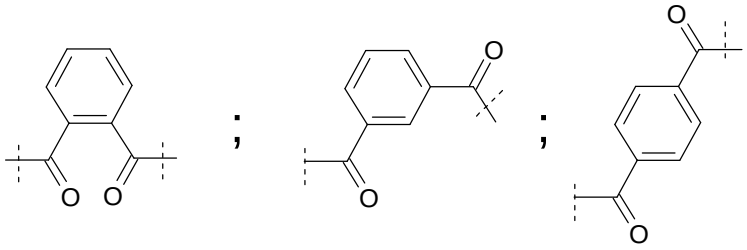
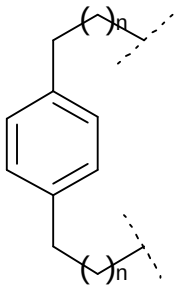
- R_4, R_5, R_7 and R_8 are OH,

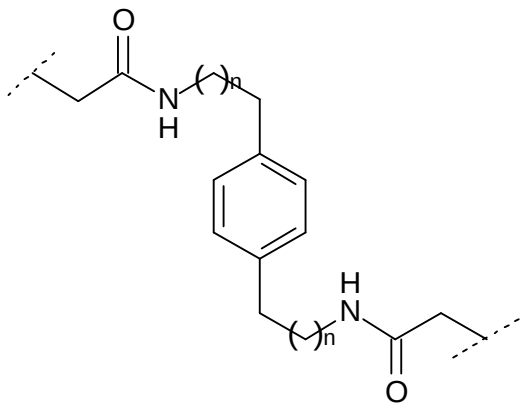
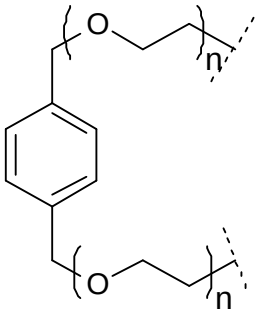
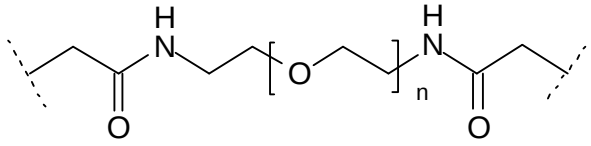
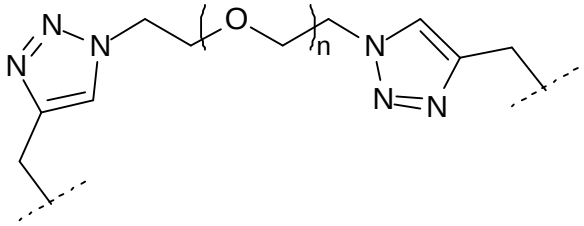
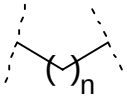
- R_2, R_3, R_6, are H.

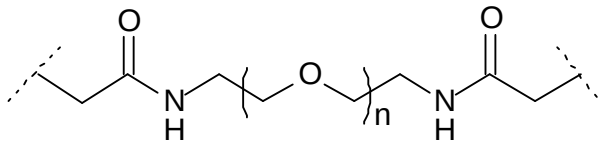
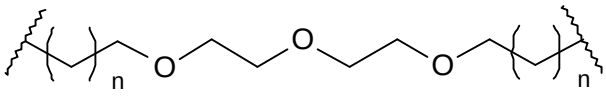
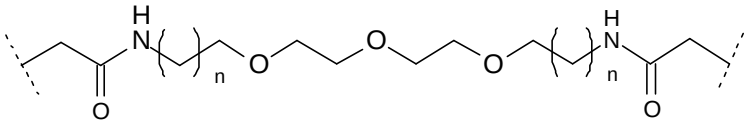
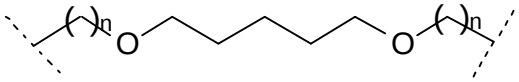
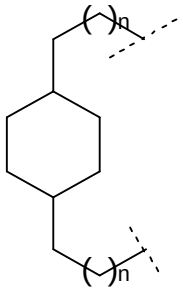
3. Pharmaceutical composition according to claim 1, wherein R'$_1$ is a Linker L and said linker is selected from the following compounds:

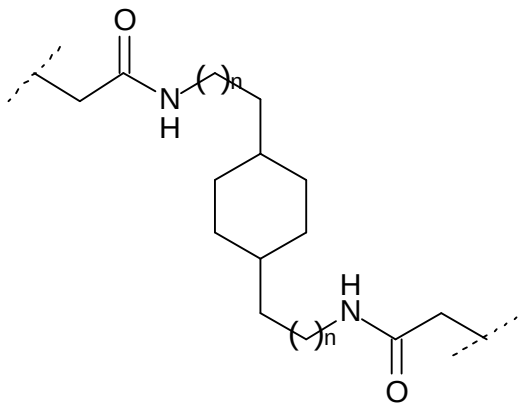
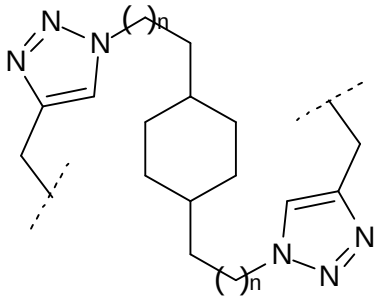
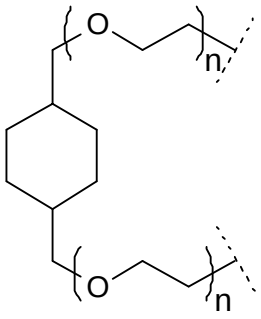
LINKER L	
L1	
L2	
L3	
L4	

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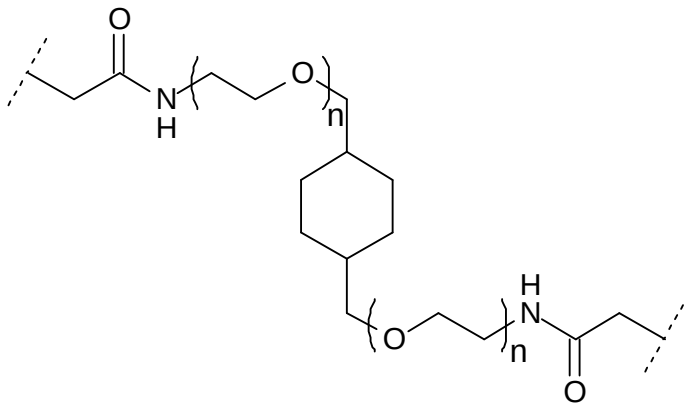
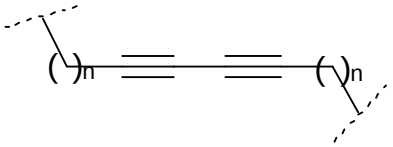
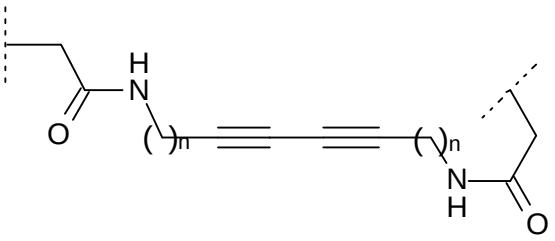
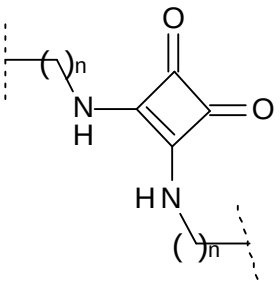
L5	
L6	
L7	
L8	 n = 0 - 8
L9	
L11	 n = 1-6, each independently

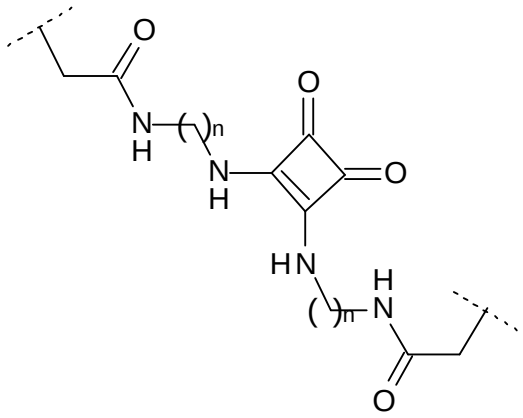
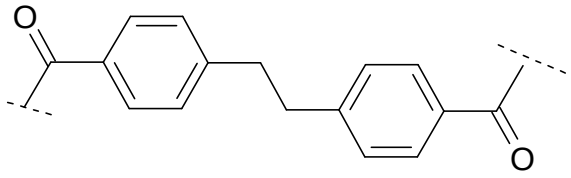
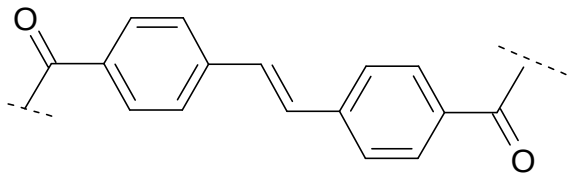
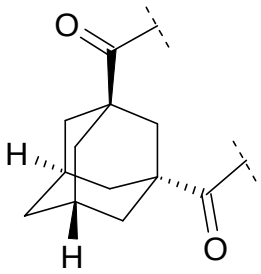
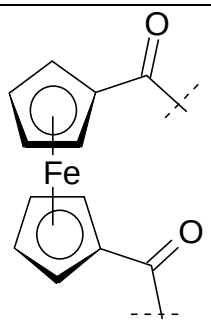
L12	 n = 1-6
L13	 n = 1-3, each independently
L14	 n = 1-4
L15	 n = 1-4, each independently
L16	

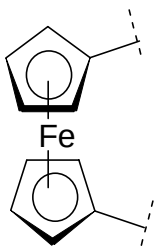
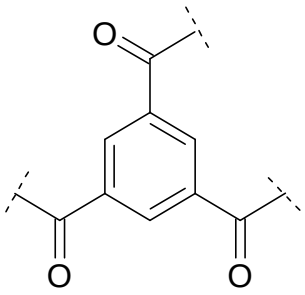
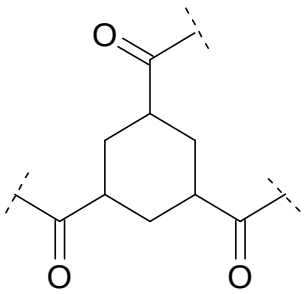
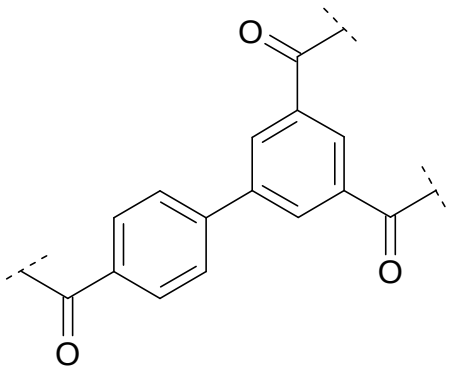
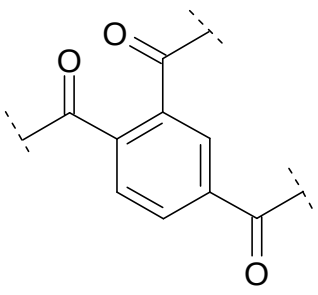
	n = 2-12
L17	 n = 1-5
L18	 n = 1-3
L19	 n = 1-3
L20	 n = 1-3
L21	 n = 1-6

L22	 n = 1-6
L23	 n = 1-6, each independently
L24	 n = 1-3, each independently

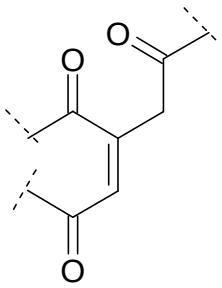
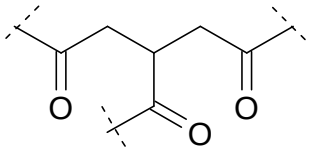
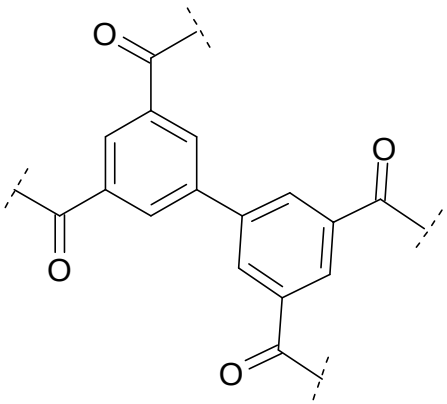
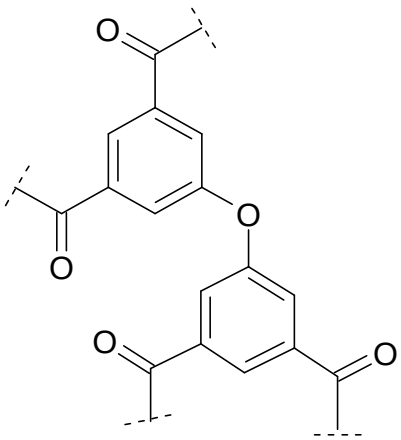
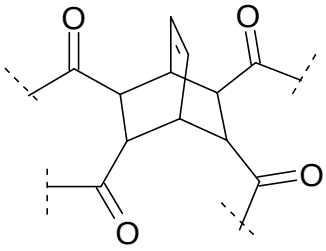
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L25	 n = 1-3, each independently
L26	 n = 1-6, each independently
L27	 n = 1-6, each independently
L28	 n = 1-6, each independently

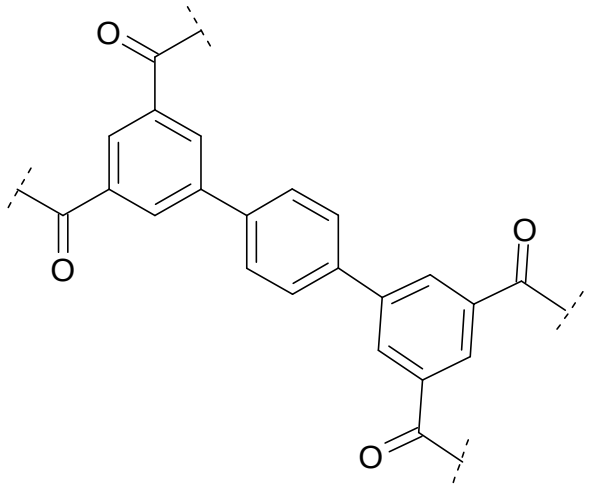
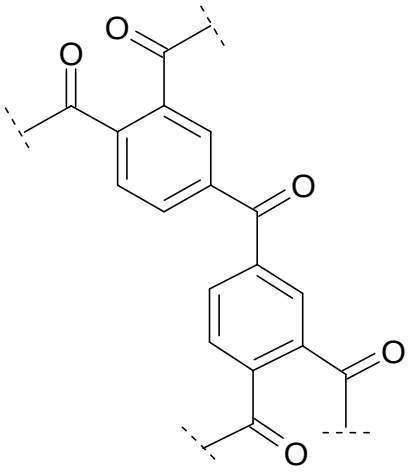
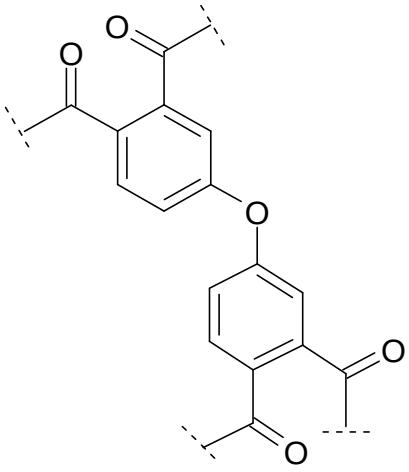
L29	 n = 1-6, each independently
L30	
L31	
L32	
L33	

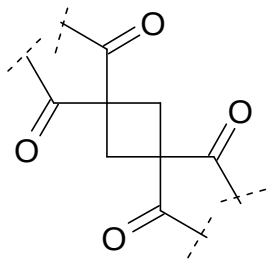
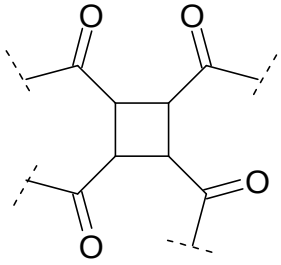
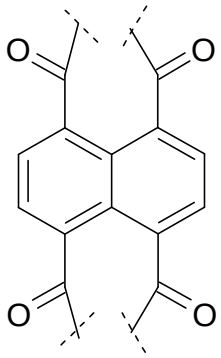
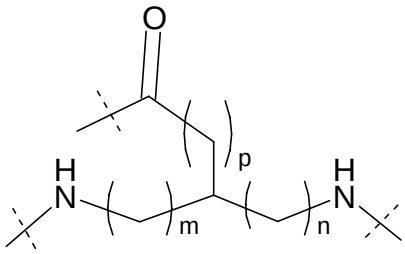
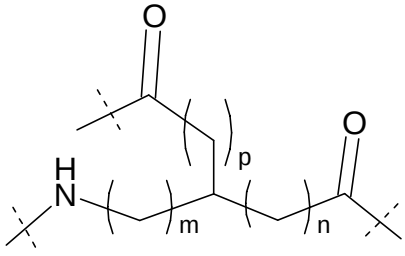
L34	
L35	
L36	
L37	
L38	

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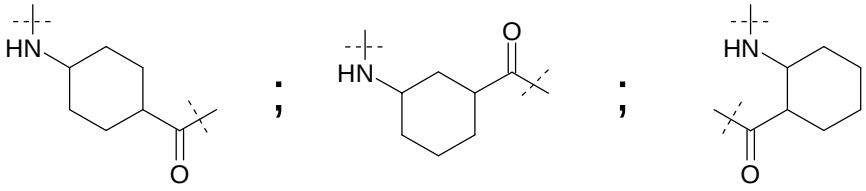
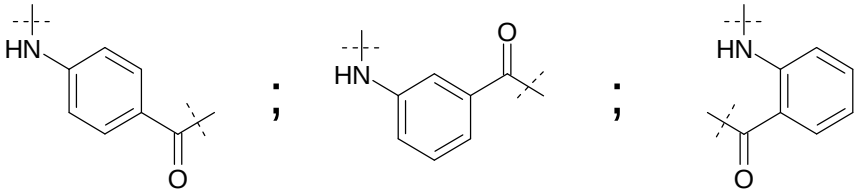
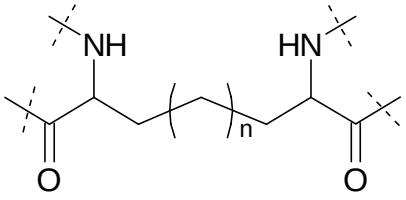
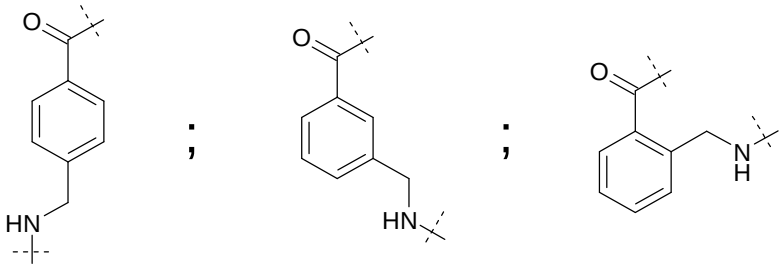
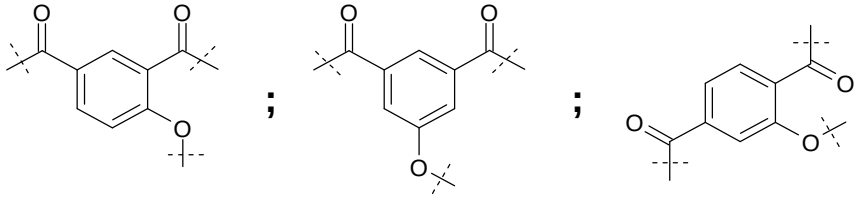
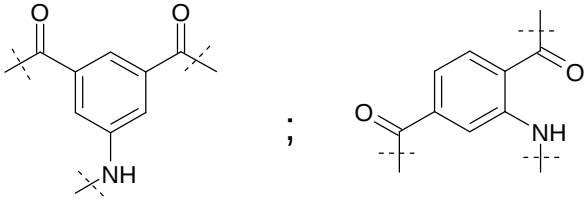
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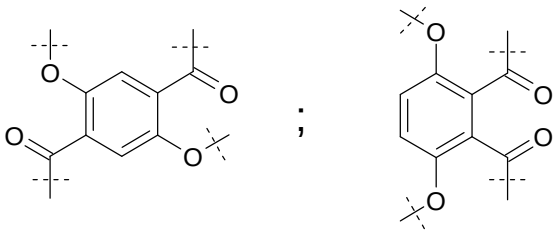
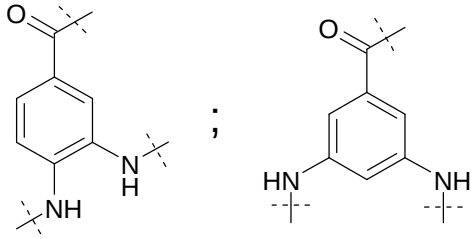
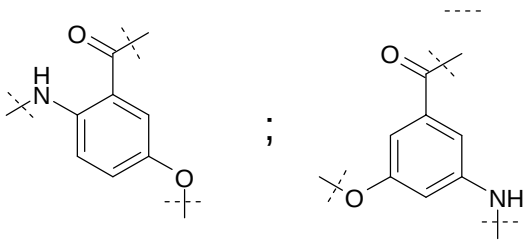
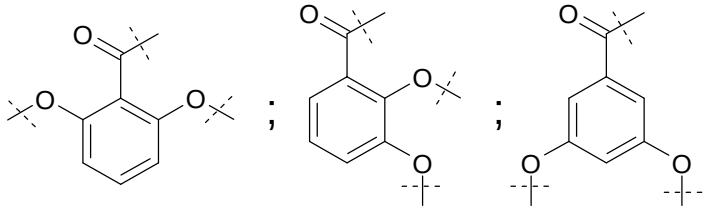
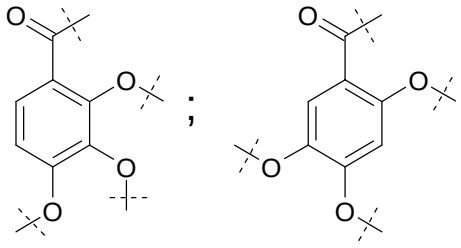
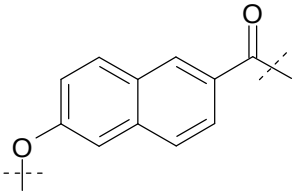
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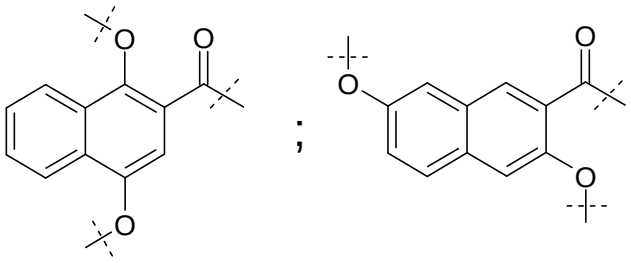
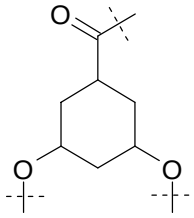
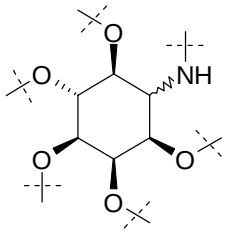
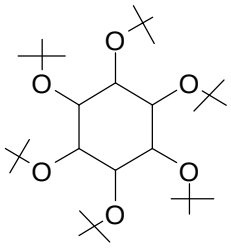
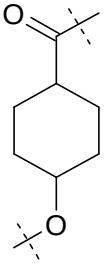
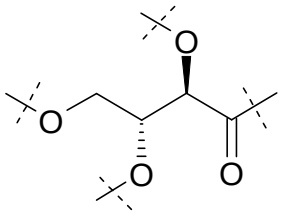
L44	
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L49	
L50	 n, m, p = 0-6; each independently
L51	 n, m, p = 0-6; each independently

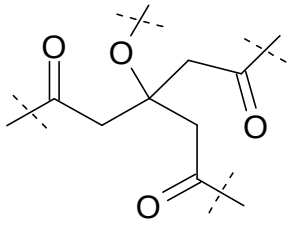
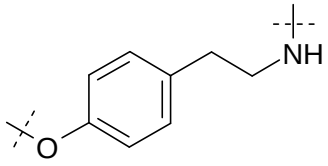
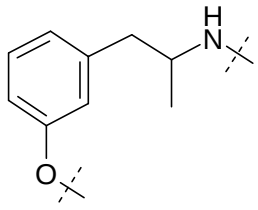
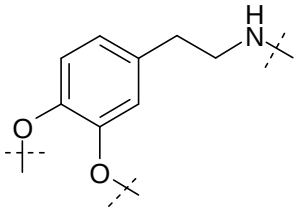
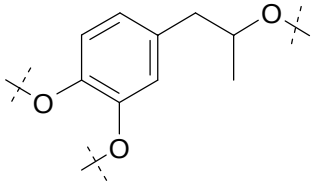
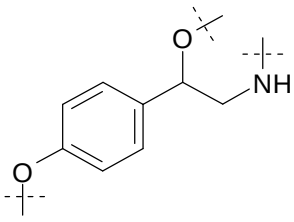
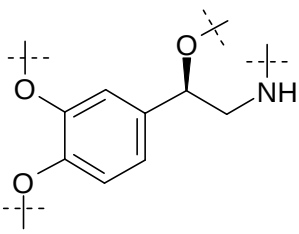
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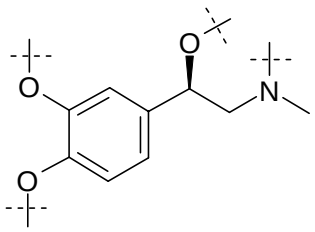
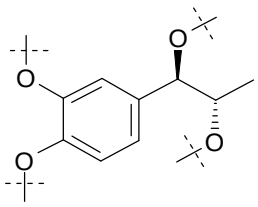
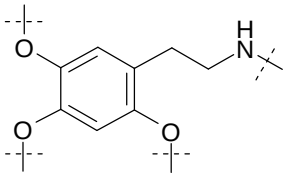
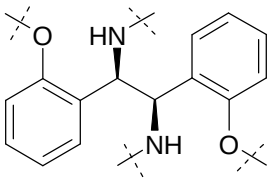
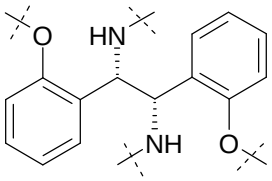
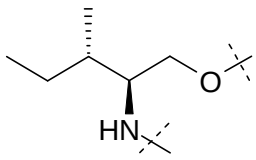
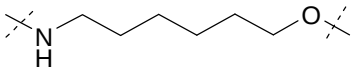
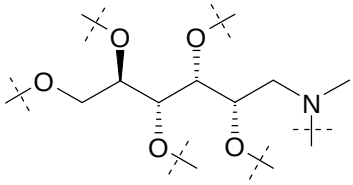
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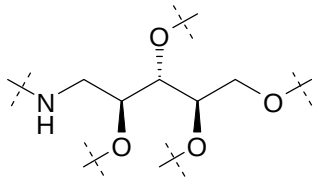
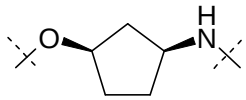
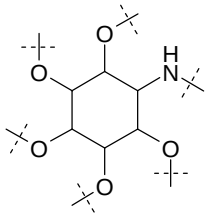
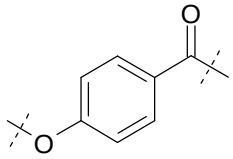
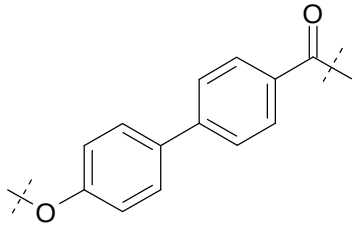
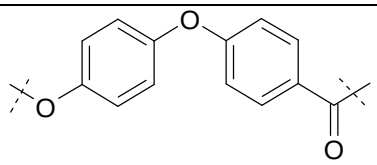
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4. Pharmaceutical composition according to one or more of the preceding claims for the treatment of one or more of the following disorders: Idiopathic pulmonary fibrosis (IPF), chronic obstructive pulmonary disease (COPD), asthma, cystic fibrosis, emphysema, bronchiectasis, and age-related loss of pulmonary function; Chronic kidney disease (CKD), interstitial nephritis, glomerulosclerosis / glomerulonephritis, acute kidney disease (AKD), kidney failure; Liver fibrosis,

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chronic hepatitis, non-alcoholic fatty liver disease (NAFLD); Pancreatic fibrosis, chronic pancreatitis; Myocardial fibrosis, infarction; Oral submucosa fibrosis; Neurodegenerative Diseases: Alzheimer's, Parkinson's, Multiple Sclerosis, mild cognitive impairment, motor neuron dysfunction, Huntington's disease, dementia; Neuropsychiatric disorders; Toxicity or inflammation, induced by chemotherapies, radiotherapies, HIV, stem cell transplant, other drugs, etc.; Osteoporosis, osteoarthritis, inflammatory bowel diseases (IBDs), inflammatory bowel syndrome (IBS), rheumatoid arthritis, oral mucositis, kyphosis, intervertebral disc degeneration, herniated intervertebral disc; Adipose atrophy; Sarcopenia, muscle / mobility loss due to aging, muscle fatigue; Atherosclerosis, angina, arrhythmia, cardiomyopathy, cardiomyocyte hypertrophy, congestive heart failure, coronary artery disease, carotid artery disease, endocarditis, coronary thrombosis, myocardial infarction, hypertension, aortic aneurysm, cardiac diastolic dysfunction, hypercholesterolemia, mitral valve prolapse, peripheral vascular disease, cardiac stress resistance, cardiac fibrosis, brain aneurysm, and stroke; Rare Diseases associated with aging and senescence, such as: aplastic anaemia, dyskeratosis congenita, Revetz syndrome, Hoyeraal-Hreidarsson syndrome, Lewy body dementia (LBD), amyloidosis, Paget's disease, diffuse idiopathic skeletal hyperostosis (DISH), multiple system atrophy (MSA), etc .; Diabetes (Type 2, Type 1), diabetic ulcer, obesity, metabolic syndrome; Wound healing; Frailty; Glaucoma, macular degeneration, cataracts, presbyopia, and vision loss; Hearing Loss; Immune function decline due to aging (Immunosenescence); Alopecia, Hair Loss; Melasma, discoloured skin, eczema, psoriasis, hyperpigmentation, nevi, rashes, atopic dermatitis, urticaria, diseases and disorders related to photosensitivity or photoaging, rhytides, pruritis, dysesthesia, eczematous eruptions, eosinophilic

dermatosis, reactive neutrophilic dermatosis, pemphigoidus dermatosis, fibrohistocytic proliferations of skin, cutaneous lymphomas, and cutaneous lupus; Transplant of kidney, liver, lung, heart, pancreas or other organ.

5. The pharmaceutical composition according to any of previous claims, wherein said senotherapeutic treatment is a senolytic treatment consisting in the selective elimination of senescent cells.

6. The pharmaceutical composition according to any of previous claims, further comprising at least one further active agent selected from: senolytics, senomorphics, senostatics, senotherapeutics, and cellular senescence promoters , and compounds that preserve tissue integrity for the production of a senotherapeutic drug for making a senotherapeutic medicament.