

Title (en)

COMPOUND CAPABLE OF TRAPPING METAL IONS, METHOD FOR UTILIZING THEM AND THEIR USE

Title (de)

ZUSAMMENSETZUNGEN ZUM ABFANGEN VON METALLIONEN, VERFAHREN FÜR IHRE ANWENDUNG UND IHRE VERWENDUNG

Title (fr)

COMPOSES SUSCEPTIBLES DE PIEGER LES IONS METALLIQUES, PROCEDE LES METTANT EN OEUVRE, ET LEUR UTILISATION

Publication

EP 1049736 A1 20001108 (FR)

Application

EP 99900962 A 19990120

Priority

- FR 9900103 W 19990120
- FR 9800547 A 19980120

Abstract (en)

[origin: FR2773808A1] Compounds that are capable of trapping metal ions are: (a) Polyamines obtained by reaction of a diamine (1) with a crosslinking agent; (b) a mixture of such polyamines; and (c) a conjugate of two diamines or polyamines as described linked directly or through a succinic or glutaric anhydride residue. The diamine or mixture of diamines used to prepare the polyamines are of formula $H_2N-A-NR_1$ (1) A = 1-6C alkylene or alkylidene optionally substituted by one or more carboxyl groups, $-(CH_2)_n-CO-$, $-CO-(CH_2)_n-$, $-(CH_2)_n-NH-(CH_2)_n-$, or $-(CH_2)_n-NH-(CH_2)_n-NH-(CH_2)_n-$; n = 1 - 6; $R_1 = H$, 1-6C alkyl optionally substituted by one or more carboxyl groups and/or an imidazolyl. The diamine may also be one prepared by polymerization of a molecule carrying an amine function and an aldehyde function protected by acetal formation, or by reduction of a polyamide. The conjugates of two diamines or polyamines are of formula $X-Y-Z_p X$ and Z = a diamine of formula (1) or a polyamine or mixture of polyamines as defined, or Z may also be a carrier molecule such as polylysine or bovine seric albumin; Y = a direct bond or a succinic or glutaric anhydride residue; p = 1 - 3 such that when X is a succinic or glutaric residue and X is (1), then A = alkylene, $-(CH_2)_n-NH-(CH_2)_n-$, or $-(CH_2)_n-NH-(CH_2)_n-NH-(CH_2)_n-$; and $R_1 = H$, or A = $-(CH_2)_2-CO-$ and $R_1 = (imidazol-5-yl)carboxymethyl$. An Independent claim is included for a method of recovering metal ions from solution comprising contacting the solution of metal ions with a compounds as described to form a complex, passing the complex through a filtration means to retain or filter the complex, and recovering the metal ions by acid treatment of the retained or filtered complex.

IPC 1-7

C08G 73/02

IPC 8 full level

C08G 73/02 (2006.01)

CPC (source: EP)

C08G 73/0206 (2013.01)

Citation (search report)

See references of WO 9936460A1

Designated contracting state (EPC)

AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

DOCDB simple family (publication)

FR 2773808 A1 19990723; FR 2773808 B1 20000505; EP 1049736 A1 20001108; WO 9936460 A1 19990722

DOCDB simple family (application)

FR 9800547 A 19980120; EP 99900962 A 19990120; FR 9900103 W 19990120