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(54) Title: PROCESS FOR TETRAAZACYCLOALKANE PREPARATION

(57) Abstract

The present invention provides a synthetic route for tetraazacycloalkane preparation which facilitates heteropoly-N-alkylation of the macrocyclic product, and is thereby beneficial for the production of chelating agents and chelates useful in diagnostic imaging. The process involves (i) reacting a tetraazaalkane with a bridging agent to couple for amine nitrogens of said tetraazaalkane to a bridging moiety to yield a fused tricyclic intermediate, (ii) reacting said intermediate to introduce an alkylene bridge between the secondary amine nitrogens in the outer rings of the fused tricyclic intermediate, optionally be decoupling an alkanediylidene bridging moiety from the tertiary amine nitrogens at the ring fusion sites of the fused tricyclic intermediate, and (iii) where necessary, decoupling said bridging moiety to yield a macrocyclic tetraazacycloalkane.