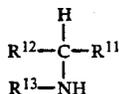


12.5. The conditioning liquid may contain, for example, the following acids:

phosphoric acid, nitric acid, pyruvic acid, citric acid, oxalic acid, ethylenediaminetetraacetic acid, acetic acid, tartaric acid, malic acid and maleic acid.

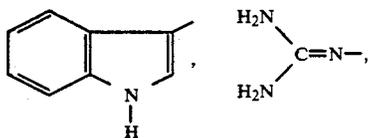
Amphoteric amino compounds which may be mentioned are preferably compounds of the formula



in which

R¹¹ represents a carboxyl group,

R¹² denotes hydrogen, or a lower alkyl radical optionally substituted by hydroxyl, thio, methylthio, carboxyl, amino, phenyl, hydroxy-phenyl or the groups



R¹³ denotes hydrogen or phenyl, where the radicals R¹¹ and R¹³ can be linked via a propyl radical, or

in which

R¹¹ represents hydrogen, R¹² represents the group



in which

A represents a doubly-bonded alkylene radical having 1 to 6 carbon atoms and

Y represents halogen, and

R¹³ denotes hydrogen.

The following amphoteric amino compounds may be mentioned as examples: glycine, serine, threonine, cysteine, tyrosine, asparagine, glutamine, alanine, valine, leucine, isoleucine, proline, methionine, phenylalanine, tryptophan, lysine, arginine, histidine, N-phenylglycine, ethylenediamine hydrochloride, ethylenediamine hydrobromide, propylenediamine hydrochloride, propylenediamine hydrobromide, butylenediamine hydrochloride, butylenediamine hydrobromide, leucine hydrochloride and histidine hydrochloride.

The conditioning liquid may furthermore contain substances from the group comprising the polyethylene glycols and metal hydroxides. In particular, the above-mentioned polybasic acids can also be employed partly as metal salts as long as free acid functions remain.

Conditioning liquids which contain at least one of the acids from the group comprising pyruvic acid, ethylenediaminetetraacetic acid and citric acid and, if appropriate, an amphoteric amino compound from the group comprising glycine, N-phenylglycine and proline, are particularly preferred.

The application of the preparations according to the invention can be carried out, for example, as follows

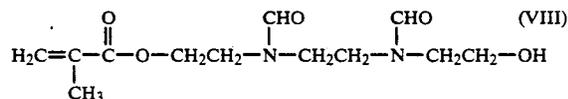
In a dental repair, for example, after a mechanical cleaning of the collagen-containing dental material, the conditioning fluid is first applied using some absorbent cotton and allowed to act for a short time (for example 60 seconds), and the dental material is rinsed with water

and dried in a stream of air. The preparation according to the invention is then applied in a thin layer, for example using a small brush, and dried in a stream of air. After the treatment according to the invention, the actual filling material, for example plastic filling materials customary in the dental field (K. Eichner, "Zahnärztliche Werkstoffe und ihre Verarbeitung" (Dental materials and their processing), Vol. 2, p. 135 et seq., Hüthig Verlag, 5th Edition 1985) is applied.

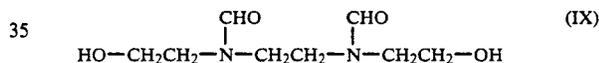
In a similar fashion, the preparations according to the invention can be used for attaching crowns, bridges and similar aids.

EXAMPLE 1

Synthesis of Ethanediyyl-N-[β-(N-formyl)-amino-ethyl-2-methyl-2-propenoate]-N'-[β-hydroxyethyl-(N'-formyl)-amine]



Preliminary step: 90.10 g (1.500 mol) of methyl formate were added dropwise to 116.16 g (0.750 mol) of bis-(2-hydroxyethyl)-ethylenediamine in 200 ml of methanol and the mixture was heated to reflux for seven hours. After stripping off all easily volatile constituents at 0.1 Torr and 30° C., 147.05 g (96% of theory) of N,N-ethanediyyl-bis(β-hydroxyethyl-N-formylamine) (IX) remain in the form of a pale oil.



IR (film): γ=3310, 2902, 1657, 1414, 1398, 1193, 1145, 1060, 858 cm⁻¹.

¹H-NMR (CDCl₃, 200 MHz): δ=3.42, 3.56, 3.71(3 m, together 14 H, CH₂ and OH), 8.02, 8.08 (2 s, together 2 H, CHO in various rotamers) ppm.

MS (70 e V - after silylation): m/e=348 (M³⁰), 333 (M-CH₃), 188, 146, 144, 126, 116 (CH₂CH₂OTMS⁺) 73 (TMS⁺).

Subsequent step:

55.15 g (0.270 mol) of the precursor (IX) in 150 ml of dry dichloromethane were initially introduced at -35° C. together with 37.00 g (0.366 mol) of triethylamine and 27 mg of 2,6-di-tert-butyl-4-methylphenol, and 28.23 g (0.270 mol) of methacryloyl chloride were added dropwise in such a way that the temperature did not rise above -30° C. The mixture was stirred for a further 2 hours at -35° C., then the precipitate which deposited at 0° C. was filtered off with suction and the organic solution was extracted with water several times. The aqueous phase was perforated with dichloromethane for 18 hours, and the organic phase was dried and concentrated to give 30.1 g (41% of theory) of the desired product (VII) which was a slightly yellowish oil.

IR (film): γ=3400, 2960, 1728, 1670, 1440, 1408, 1320, 1300, 1163, 1078, 950, 818 cm⁻¹.

¹H-NMR (CDCl₃, 200 MHz): δ=1.93 (bs 3 H CH₃) 3.3-3.8 (m, 10 H, NCH₂ and CH₂OH), 4.39 (m, 2 H, COCH₂), 5.61, 6.08 (2 m each 1 H, vinyl. H), 8.00-8.10 (m, 2 H, CHO in various rotamers) ppm.