

EXAMPLE 9

Preparation of a Resolving Gel Composition (single agarose derivatized before depolymerization)

A one component resolving gel was prepared by exposing 1,2-dihydroxy-propyl agarose powder (glycerated agarose, described in Example 1 of previously cited U.S. Pat. No. 4,312,727), to gamma irradiation of 600 mR. This treatment reduced the viscosity of a 3% solution to 30-40 mPa's at 75° C.

EXAMPLE 10—(Comparison)

Preparation of a Resolving Gel Composition (single agarose derivatized before depolymerization)

A one component resolving gel was prepared by exposing hydroxy-C_{2,4}-alkoxylated agarose powder (SeaPlaque® a product of FMC Corporation, BioProducts Group, Rockland, Me., 04841 U.S.A.) to gamma irradiation of 600 mR. This treatment reduced the viscosity of a 3% solution to 30-40 mPa's at 75° C. Although Example 10 is outside the scope of this invention, Examples 9 and 10 taken together demonstrate the independence of viscosity control (achieved by depolymerization) and sieving control (achieved by derivatization).

EXAMPLE 11

Preparation of a Resolving Gel Composition (single agarose derivatized after depolymerization)

A one component resolving gel was prepared by exposing low electroendosmosis agarose powder (SeaKem® LE a product of FMC Corporation, BioProducts Group, Rockland, Me. 04841, U.S.A.) to gamma irradiation of 600 mR, which treatment reduced the viscosity of a 3% solution to 30-40 mPa's at 75° C., followed by the addition of 1,2-dihydroxy-propyl moieties.

EXAMPLE 12

Preparation of a Resolving Gel Composition (single agarose derivatized after depolymerization)

A one component resolving gel was prepared by exposing low electroendosmosis agarose powder (SeaKem® LE a product of FMC Corporation, BioProducts Group, Rockland, Me. 04841, U.S.A.) to gamma irradiation of 600 mR (this treatment reduced the viscosity of a solution to 30-40 mPa's at 75° C.) followed by the addition of hydroxy-C_{2,4}-alkoxylate moieties.

EXAMPLE 13

Preparation of a Resolving Gel Composition (depolymerized native agarose+derivatized agarose)

Component 1 was prepared by exposing low electroendosmosis native (underivatized) agarose powder (SeaKem® LE a product of FMC Corporation, BioProducts Group, Rockland, Me. 04841 U.S.A.) to gamma irradiation of 600 mR. This treatment reduced the viscosity of a 3% solution to 30-40 mPa's at 75° C.

Component 2 was 1,2-dihydroxy-propyl agarose (glycerated agarose, described in Example 1 of previously cited U.S. Pat. No. 4,312,727).

Both components were blended in a 1:1 (w/w) ratio and six (6) grams were dissolved in 100 mL of a buffer containing 0.5M Tris and 0.4M boric acid at pH 8.5. The viscosity of the resulting solution at 75° C. was

within the range of 400-600 mPa's. In addition the resulting agarose blend had both low gelling (24°-28° C.) and remelting (65°-70° C.) temperatures enabling manageable gel casting and preparative procedures for protein recovery.

EXAMPLE 14

Preparation of a Resolving Gel Composition (depolymerized native agarose+derivatized agarose)

Component 1 was prepared by exposing low electroendosmosis native (underivatized) agarose powder (SeaKem® LE a product of FMC Corporation, BioProducts Group, Rockland, Me. 04841 U.S.A.) to gamma irradiation of 600 mR. This treatment reduced the viscosity of a 3% solution to 30-40 mPa's at 75° C.

Component 2 was hydroxy-C_{2,4}-alkoxylated agarose powder (SeaPlaque® a product of FMC Corporation, BioProducts Group, Rockland, Me. 04841, U.S.A.).

Both components were blended in 1:1 (w/w) ratio and six (6) grams were dissolved in 100 mL of a buffer containing 0.5M Tris and 0.4M boric acid at pH 8.5. The viscosity of the resulting solution at 75° C. was within the range of 400-600 mPa's. In addition the resulting agarose blend had both low gelling (24°-28° C.) and remelting (65°-70° C.) temperatures enabling manageable gel casting and preparative procedures for protein recovery.

EXAMPLE 15

Preparation of a Resolving Gel Composition (agarose derivatized after depolymerization)

Component 1 was prepared by exposing low electroendosmosis native (underivatized) agarose powder (SeaKem® LE a product of FMC Corporation, BioProducts Group, Rockland, Me. 04841 U.S.A.) powder to gamma irradiation of 600 mR (this treatment reduces the viscosity of a 3% solution to 30-40 mPa's at 75° C.), followed by the addition of 1,2-dihydroxy-propyl moieties.

Component 2 was hydroxy-C_{2,4}-alkoxylated agarose powder (SeaPlaque®, a product of FMC Corporation, BioProducts Group, Rockland, Me. 04841 U.S.A.).

Both components were blended in a 1:1 (w/w) ratio and six (6) grams were dissolved in 100 mL of a buffer containing 0.5M Tris and 0.4M boric acid at pH 8.5. The viscosity of the resulting solution at 75° C. was within the range of 400-600 mPa's. In addition the resulting agarose blend had both low gelling (24°-28° C.) and remelting (65°-70° C.) temperatures enabling manageable gel casting and preparative procedures for protein recovery.

EXAMPLE 16

Preparation of a Resolving Gel Composition (derivatization after depolymerization)

Component 1 was prepared by exposing low electroendosmosis native (underivatized) agarose powder (SeaKem® LE, a product of FMC Corporation, Rockland, Me. 04841, U.S.A.) to gamma irradiation of 600 mR (this treatment reduced the viscosity of a 3% solution to 30-40 mPa's at 75° C.), followed by the addition of hydroxyethyl moieties.

Component 2 was 1,2-dihydroxy-propyl agarose (glycerated agarose, described in Example 1 of previously cited U.S. Pat. No. 4,312,727).