

15.256 g/l TRIS, and 1 g/l SDS, pH 6.8; compartment 12 contains 0.315 g acrylamide and 0.0084 g BIS; compartment 16 contains 0.0016 g APS powder; and compartment 18 contains 7.5 μ l TEMED.

During use all seals 20, 22, and 24 are simultaneously broken and the compartments mixed gently. The liquid is then poured using standard procedures to form a polyacrylamide gel.

EXAMPLE 2

Preparation of a Urea-Containing Polyacrylamide Gel for DNA Sequencing

The above-described apparatus can be provided with one extra compartment containing urea. The components, and their relative quantities, required to form such an acrylamide gel are generally described in Maniatis, "Molecular Cloning", A Laboratory Manual, 2nd ed., Section 13, 1987.

EXAMPLE 3

Preparation of a Gradient Gel for Protein Separation

Gradient gels for protein separation can be formed using the above-described apparatus using reagents generally as described by Maniatis, supra, Section 18. For the preparation of a gradient gel, two separate apparatuses are provided, each adapted to form an appropriate percentage acrylamide solution. These solutions are then placed into a standard gradient-forming apparatus and a gradient gel formed by standard procedure.

EXAMPLE 4

Non-acrylamide Matrices

Non-acrylamide matrices have been described in the art. For example, AT Biochem, Inc. describes a hydrolink non-acrylamide low molecular weight DNA gel. The above-described apparatus can be adapted to separate the individual components required to form the hydrolink gel in a manner similar to that described for the polyacrylamide gels.

Other embodiments are within the following claims. I claim:

1. Apparatus for forming an electrophoretic gel comprising a polymer, said apparatus comprising:

at least two sealed compartments, one said sealed compartment having a first inner volume, a second said sealed compartment having a second inner volume, said first and second inner volumes being separated from each other by at least one burstable seal, one said inner volume comprising a monomer which can be polymerized to form said polymer, the other said inner volume comprising a catalyst, wherein bursting of said burstable seal allows said monomer and said catalyst to contact each other and, in conjunction with any other necessary components held within said apparatus, to form a liquid medium in said apparatus, said liquid medium being adapted to form the electrophoretic gel.

2. Apparatus for forming an electrophoretic gel comprising a polymer, said apparatus comprising:

at least two sealed compartments, one said compartment having a first inner volume and the second said compartment having a second inner volume, said apparatus comprising all chemical components necessary to form said electrophoretic gel, wherein one or more of said chemical components is provided in said first inner volume, and one or more of

said chemical components is provided in said second inner volume, and wherein said first and second inner volumes are separated from each other by at least one burstable seal, wherein bursting of said burstable seal allows contact of said first and second inner volumes and thereby contact of said chemical components held within said volumes, wherein when all said chemical components are contacted within said apparatus a liquid medium for forming the electrophoretic gel is provided.

3. An apparatus for forming an electrophoretic gel comprising a polymer, said apparatus comprising:

at least four sealed compartments, each said sealed compartment having an inner volume, each said inner volume being separated from other said inner volumes by one or more burstable seals, a first said inner volume comprising a monomer which can be polymerized to form said polymer, a second said inner volume comprising an initiator, a third said inner volume comprising an accelerator, and a fourth said inner volume comprising an aqueous buffer, wherein bursting of said burstable seals allows said monomer, initiator, accelerator, and buffer to contact each other and to form a liquid medium in said apparatus, said liquid medium being adapted to form the electrophoretic gel.

4. The apparatus of claim 3 wherein said initiator is provided in solid form.

5. The apparatus of claim 3 wherein said accelerator is provided in liquid form.

6. The apparatus of claim 1 or 3 comprising a comonomer which co-polymerizes with said monomer to form said polymer.

7. The apparatus of claim 6, wherein said comonomer is provided in said inner volume comprising said monomer.

8. The apparatus of claim 1, wherein said catalyst is chosen from an accelerator and an initiator.

9. The apparatus of claim 1 or 2, wherein said apparatus comprises an initiator.

10. The apparatus of claim 9, wherein said initiator is provided in a third inner volume, within a third sealed compartment, separated from one of said first and second inner volumes by a second burstable seal.

11. The apparatus of claim 1 or 2, further comprising a liquid buffer.

12. The apparatus of claim 1, 2 or 3, wherein said apparatus comprises a tapered nozzle adapted to allow liquid medium formed in said apparatus to be removed in a controlled fashion from said apparatus.

13. The apparatus of claim 1, 2 or 3, wherein said apparatus is formed as a flexible plastic bag.

14. The apparatus of claim 13, wherein the outer portion of said flexible plastic bag comprises a light absorbing material adapted to prevent photodegradation of chemicals held within said apparatus.

15. The apparatus of claim 1 or 2, wherein said first and second inner volumes comprise no oxygen in any gaseous phase.

16. The apparatus of claim 1 or 3, wherein said monomer is acrylamide.

17. The apparatus of claim 1, wherein said catalyst is an accelerator chosen from N,N,N',N'-tetramethylethylenediamine and 4-dimethylaminopropionitrile.

18. The apparatus of claim 16, wherein said acrylamide is provided in powdered form.