GRADIENT GEL POURING STAND INSTRUCTIONS

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Gradient gels are popular because they give the highest resolution possible with single dimension gels. Prior to the development of the Gradient Gel Pouring Stand, gels were poured individually and required up to an hour of labor per gel. Our Gradient Gel Pouring Stand has been designed to pour up to twelve MINI-SLAB gradient gels simultaneously with a single fill of your gradient maker. This makes it possible for researchers to achieve the excellent resolution of gradient gels with only a few minutes of preparation time per gel.

DIRECTIONS

The pouring stand is set on the edge of the benchtop with the inlet tube over the edge of the benchtop. Gel sandwiches are stacked in the following order: 1 glass plate, pair of side spacers, 2 glass plates, pair of side spacer .. etc... 2 glass plates, pair of side spacers, 1 glass plate. (HINT: Put a drop of water between each pair of glass plates to make them easier to separate after polymerization.) If fewer gels are needed, gel plates without spacers and/or acrylic filler pieces (matching or larger than the gel plates) can be used as filler. An acrylic filler piece is added last, to a level overfilling the stand by 2 mm. Place the U-shaped gasket over the rim (and around the movable piece). Cover the gasket and the movable piece with the appropriate acrylic cover (extending in height just to the level of the glass plates, facilitating the insertion of combs, if desired) and clip the cover in place to seal. Do not tip the pouring stand from side to side, as the side spacers may fall toward the center and make it necessary to re-stack the gel sandwiches. Place the pouring stand upright. Slowly fill the pouring stand with the gradient solution, being careful to avoid bubbles. Bubbles should be cleared from the inlet tubing by using a higher pumping rate (or a higher head if the apparatus is being filled by gravity) during the first few seconds. After filling, overlayer each gel with n-butanol (or other overlay solution) and allow to polymerize. After polymerization, unclip and remove acrylic pieces. Remove gel sandwiches individually by wedging a thin razor blade between them. Rinse the n-butanol overlay from the gels and store in Ziploc bags until needed. Most gels can be stored several weeks.

TROUBLESHOOTING:

PROBLEM: Gels do not fill at equal rates.
SOLUTION: Glass plates are soiled, giving a differing capillary effect in the gel sandwiches. Clean glass.

PROBLEM: Poor gradient across gel. Gel has a "frown" shape.
SOLUTION: Density gradient is too shallow. Add sucrose to the heavy solution to increase density.

PROBLEM: Bubbles enter chamber during filing.
SOLUTION: Clear inlet tubing by flushing with a more rapid flow rate during the first few seconds of filling or connect tubing to a 3 mm. (outside diameter) insert tube with a "collar" of silicone tubing.

PACKING LIST:
1 - GRADIENT GEL POURING STAND
1 - ACRYLIC COVER FOR 8-cm. GELS
1 - ACRYLIC COVER FOR 10-cm. GELS
1 - ACRYLIC COVER FOR 15-cm. GELS
3 - ACRYLIC FILLER PIECES FOR 8-cm. GELS
3 - ACRYLIC FILLER PIECES FOR 10-cm. GELS
3 - ACRYLIC FILLER PIECES FOR 15-cm. GELS
0.5-AND 0.8-mm. SPACER MATERIAL
4 - U-SHAPED SEALING GASKETS
6 - CLOSURE CLIPS