CASTING OF SEVERAL SEPARATING GELS SIMULTANEOUSLY WITH THE MULTIPLE GEL POURING STAND

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INTRODUCTION

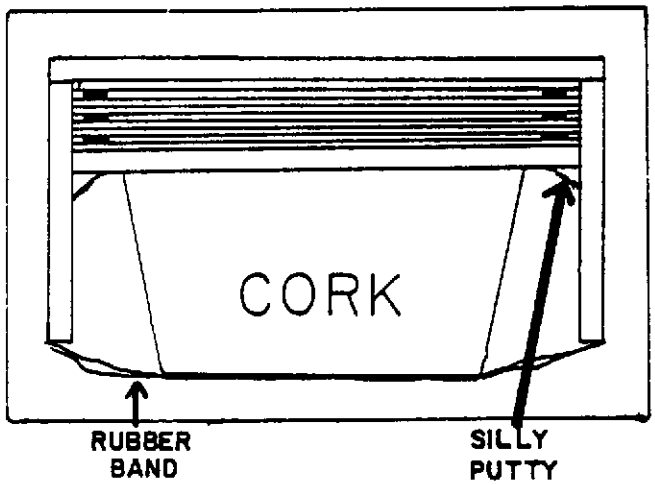
The Idea Scientific MULTIPLE GEL POURING STAND is a device which allows the user to cast up to 18 separating gels simultaneously. Stacking gels are added individually to separating gels later. The device is designed for casting separating gels of a single acrylamide concentration. For casting multiple gradient gels use the Idea Scientific UNIVERSAL GRADIENT GEL POURING STAND.

CASTING OF GELS

Set the pouring stand down on its backside on an object so the back is level. Make gel sandwiches by stacking glass and spacers in the following order: drop of water, glass plate, pair of side spacers, glass plate, drop of water, glass plate, pair of side spacers, glass plate, drop of water, glass plate, etc., until the desired number of gel sandwiches is in the apparatus. Place the appropriate frontspiece (for 8- or 10- cm. long gels) on top of the sandwiches and carefully put stand in the vertical pouring position while holding the frontspiece. (Do not tip pouring stand on its side as a side spacer may fall down and the whole process of stacking sandwiches will have to be repeated). Place an object (like a large cork) on the frontspiece and stretch a weak rubber band around the apparatus to hold the cork in place.

The SILLY PUTTY™ clay provided can be used to seal the apparatus. This is done by rolling a 12 inch (30 cm.) long rod of silly putty between the fingers and a benchtop. Then, take the rod of silly putty and push it into the three sides of the frontspiece to seal it in place. Leaks usually occur at the two bottom corners so push the clay in well there. (The frontspiece can also be sealed with 1.5% agarose but one must be very careful not to jar the apparatus if agarose is used). Now pour the gel formulation into the sandwiches. Most scientists leave about a 2 cm. space at the top of the gels for the comb and stacking gel. Overlayer each gel with 150 microliters of n-Butanol or other overlayer. Allow the gels to set. The best gels will be obtained if the polymerization time is longer than 10 minutes.

The RALWAX 2 provided with the apparatus can also be used for sealing. It is a wax with a melting point of 50 degrees C. which can be poured around the frontspiece to give an effective seal. After use it can be scraped from the apparatus for re-use. The low temperature melting point gives easy apparatus clean-up, as the wax will wash away under a hot-water tap. Additional RALWAX 2 can be ordered from Accurate Chemical Co. (phone # 516-333-2221).



TOP VIEW OF THE POURING STAND

After polymerization, remove the gels individually by prying them out with a single-edge razor blade. The drop of water used between the glass plates during the set-up keeps the acrylamide from getting between the glass plates, making separation easier. These gels can be stored several weeks if they are in a humid environment. Zipper-type plastic bags work well for storage. Some scientists store the gels above the surface of a water-filled tray. Remarkably, SDS gels can be stored in the refrigerator without precipitation of the SDS. (Note: Be careful not to dislodge the side spacers when handling the gels).

GEL USAGE

Prepare a separating gel for use by copiously rinsing the n-Butanol overlay off of the gel, then seal it into the upper reservoir of the MINI-SLAB. Cast the stacking gel in the upper reservoir as the it will seal the side spacers if they were dislodged in handling.

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