

Figure 1. The effect of the concentration of the polymer on the gelation time of the polymer solution. The concentration of the polymer was 0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9, 1.0, 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 1.9, 2.0, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 3.0, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9, 4.0, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8, 4.9, 5.0, 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 5.7, 5.8, 5.9, 6.0, 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 7.0, 7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 7.7, 7.8, 7.9, 8.0, 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, 8.8, 8.9, 9.0, 9.1, 9.2, 9.3, 9.4, 9.5, 9.6, 9.7, 9.8, 9.9, 10.0, 10.1, 10.2, 10.3, 10.4, 10.5, 10.6, 10.7, 10.8, 10.9, 11.0, 11.1, 11.2, 11.3, 11.4, 11.5, 11.6, 11.7, 11.8, 11.9, 12.0, 12.1, 12.2, 12.3, 12.4, 12.5, 12.6, 12.7, 12.8, 12.9, 13.0, 13.1, 13.2, 13.3, 13.4, 13.5, 13.6, 13.7, 13.8, 13.9, 14.0, 14.1, 14.2, 14.3, 14.4, 14.5, 14.6, 14.7, 14.8, 14.9, 15.0, 15.1, 15.2, 15.3, 15.4, 15.5, 15.6, 15.7, 15.8, 15.9, 16.0, 16.1, 16.2, 16.3, 16.4, 16.5, 16.6, 16.7, 16.8, 16.9, 17.0, 17.1, 17.2, 17.3, 17.4, 17.5, 17.6, 17.7, 17.8, 17.9, 18.0, 18.1, 18.2, 18.3, 18.4, 18.5, 18.6, 18.7, 18.8, 18.9, 19.0, 19.1, 19.2, 19.3, 19.4, 19.5, 19.6, 19.7, 19.8, 19.9, 20.0, 20.1, 20.2, 20.3, 20.4, 20.5, 20.6, 20.7, 20.8, 20.9, 21.0, 21.1, 21.2, 21.3, 21.4, 21.5, 21.6, 21.7, 21.8, 21.9, 22.0, 22.1, 22.2, 22.3, 22.4, 22.5, 22.6, 22.7, 22.8, 22.9, 23.0, 23.1, 23.2, 23.3, 23.4, 23.5, 23.6, 23.7, 23.8, 23.9, 24.0, 24.1, 24.2, 24.3, 24.4, 24.5, 24.6, 24.7, 24.8, 24.9, 25.0, 25.1, 25.2, 25.3, 25.4, 25.5, 25.6, 25.7, 25.8, 25.9, 26.0, 26.1, 26.2, 26.3, 26.4, 26.5, 26.6, 26.7, 26.8, 26.9, 27.0, 27.1, 27.2, 27.3, 27.4, 27.5, 27.6, 27.7, 27.8, 27.9, 28.0, 28.1, 28.2, 28.3, 28.4, 28.5, 28.6, 28.7, 28.8, 28.9, 29.0, 29.1, 29.2, 29.3, 29.4, 29.5, 29.6, 29.7, 29.8, 29.9, 30.0, 30.1, 30.2, 30.3, 30.4, 30.5, 30.6, 30.7, 30.8, 30.9, 31.0, 31.1, 31.2, 31.3, 31.4, 31.5, 31.6, 31.7, 31.8, 31.9, 32.0, 32.1, 32.2, 32.3, 32.4, 32.5, 32.6, 32.7, 32.8, 32.9, 33.0, 33.1, 33.2, 33.3, 33.4, 33.5, 33.6, 33.7, 33.8, 33.9, 34.0, 34.1, 34.2, 34.3, 34.4, 34.5, 34.6, 34.7, 34.8, 34.9, 35.0, 35.1, 35.2, 35.3, 35.4, 35.5, 35.6, 35.7, 35.8, 35.9, 36.0, 36.1, 36.2, 36.3, 36.4, 36.5, 36.6, 36.7, 36.8, 36.9, 37.0, 37.1, 37.2, 37.3, 37.4, 37.5, 37.6, 37.7, 37.8, 37.9, 38.0, 38.1, 38.2, 38.3, 38.4, 38.5, 38.6, 38.7, 38.8, 38.9, 39.0, 39.1, 39.2, 39.3, 39.4, 39.5, 39.6, 39.7, 39.8, 39.9, 40.0, 40.1, 40.2, 40.3, 40.4, 40.5, 40.6, 40.7, 40.8, 40.9, 41.0, 41.1, 41.2, 41.3, 41.4, 41.5, 41.6, 41.7, 41.8, 41.9, 42.0, 42.1, 42.2, 42.3, 42.4, 42.5, 42.6, 42.7, 42.8, 42.9, 43.0, 43.1, 43.2, 43.3, 43.4, 43.5, 43.6, 43.7, 43.8, 43.9, 44.0, 44.1, 44.2, 44.3, 44.4, 44.5, 44.6, 44.7, 44.8, 44.9, 45.0, 45.1, 45.2, 45.3, 45.4, 45.5, 45.6, 45.7, 45.8, 45.9, 46.0, 46.1, 46.2, 46.3, 46.4, 46.5, 46.6, 46.7, 46.8, 46.9, 47.0, 47.1, 47.2, 47.3, 47.4, 47.5, 47.6, 47.7, 47.8, 47.9, 48.0, 48.1, 48.2, 48.3, 48.4, 48.5, 48.6, 48.7, 48.8, 48.9, 49.0, 49.1, 49.2, 49.3, 49.4, 49.5, 49.6, 49.7, 49.8, 49.9, 50.0, 50.1, 50.2, 50.3, 50.4, 50.5, 50.6, 50.7, 50.8, 50.9, 51.0, 51.1, 51.2, 51.3, 51.4, 51.5, 51.6, 51.7, 51.8, 51.9, 52.0, 52.1, 52.2, 52.3, 52.4, 52.5, 52.6, 52.7, 52.8, 52.9, 53.0, 53.1, 53.2, 53.3, 53.4, 53.5, 53.6, 53.7, 53.8, 53.9, 54.0, 54.1, 54.2, 54.3, 54.4, 54.5, 54.6, 54.7, 54.8, 54.9, 55.0, 55.1, 55.2, 55.3, 55.4, 55.5, 55.6, 55.7, 55.8, 55.9, 56.0, 56.1, 56.2, 56.3, 56.4, 56.5, 56.6, 56.7, 56.8, 56.9, 57.0, 57.1, 57.2, 57.3, 57.4, 57.5, 57.6, 57.7, 57.8, 57.9, 58.0, 58.1, 58.2, 58.3, 58.4, 58.5, 58.6, 58.7, 58.8, 58.9, 59.0, 59.1, 59.2, 59.3, 59.4, 59.5, 59.6, 59.7, 59.8, 59.9, 60.0, 60.1, 60.2, 60.3, 60.4, 60.5, 60.6, 60.7, 60.8, 60.9, 61.0, 61.1, 61.2, 61.3, 61.4, 61.5, 61.6, 61.7, 61.8, 61.9, 62.0, 62.1, 62.2, 62.3, 62.4, 62.5, 62.6, 62.7, 62.8, 62.9, 63.0, 63.1, 63.2, 63.3, 63.4, 63.5, 63.6, 63.7, 63.8, 63.9, 64.0, 64.1, 64.2, 64.3, 64.4, 64.5, 64.6, 64.7, 64.8, 64.9, 65.0, 65.1, 65.2, 65.3, 65.4, 65.5, 65.6, 65.7, 65.8, 65.9, 66.0, 66.1, 66.2, 66.3, 66.4, 66.5, 66.6, 66.7, 66.8, 66.9, 67.0, 67.1, 67.2, 67.3, 67.4, 67.5, 67.6, 67.7, 67.8, 67.9, 68.0, 68.1, 68.2, 68.3, 68.4, 68.5, 68.6, 68.7, 68.8, 68.9, 69.0, 69.1, 69.2, 69.3, 69.4,

INSURANCE.
CHARTER 1829. PERFECT
FRANKLIN
FIRE INSURANCE COMPANY
OF
PHILADELPHIA.
ASSETS.
ON JANUARY 1, 1864.
\$ 2,457,940 00

\$2,457,849 98
 CAPITAL, ACCRUED SURPLUS, INVESTED PREMIUMS,
 UNSETTLED CLAIMS. INCOME FORT
 \$5,416 \$300,00
 LOSS PAID SINCE 1829,
 \$5,000,000.
 PERPETUAL AND TEMPORARY PO
 ON LIBERAL TERMS.
 DIRECTORS.
 Charles N. Banker, Isaac Lea,
 T.

Samuel Grant, Edward C. Dale,
 Jacob R. Smith, George Gates,
 George W. Richards, Alfred Butler,
 CHARLES N. BANCCKER, Pres.,
 EDWARD C. DALE, Vice-Pres.
 JAS. W. MCALLISTER, Sec. Pro Tem.

THE BELMAN F. INSURANCE CO.
 Incorporated in 1847
 OFFICE No. 308 WALNUT STREET
 Insures against loss of damage by
 HOUSES, STORES AND OTHER BUILDINGS
 limited or perpetual and on FURNITURE
 GOODS, WAREHOUSES AND MECHANICAL
 CAPITAL \$300,000. ASSETS
 Invested in the following securities,

first mortgage on City Property, well
United States 6 per cent Loan.....
Philadelphia City 6 per cent. Loan.....
Commonwealth of Pennsylvania 6 per
cent 3d, 4d, 6d Loan.....
Pennsylvania Railroad 1st and 2d Mort-
gage Loans.....
Camden and Atco.....
pany's 6 per cent Loan.....
Philadelphia and Reading Railroad
Company's 6 per cent Loan.....
Broad and Broad Top Railroad 7
per cent Loans.....
Commercial Bank of Penn'a. Stock.....
Mechanics' Bank Stock.....
County Fire Insurance Company's

Union Mutual Insurance Company's	Stock	
Reliance Insurance Company of Philadelphia Stock		
Accrued interest on bonds		
Cash in bank and on hand		
Worth at present market value.....			\$ 1,000,000
DIRECTORS			
Clem Tingley,	Benj. W. Tink		
Wm. R. Thompson,	Robert Tolson		
Samuel Blesham,	Wm. Stevenson		
Robert Stoen,	Hampson L. C.		
William Myser.			

Charles Leland, J. Johnson Br.
Thos H. Moore.
THOS. C. HILL, Secretary. ja1-fm

FIRE ASSOCIATION
Incorporated March 27, 1863.
OFFICE NO. 34
INSURE BUILDINGS, HOUSES,
FURNITURE AND MERCHANDISE
generally, from Loss by Fire.
City of Philadelphia only.
Statement of the Assets of the Association
May 1, 1863.
Bonds and Mortgages on Property in the
City of Philadelphia only.....\$
Ground Rents.....
Real Estate.....

streets.).....
U. S. Gov. 5-20, Bonds.....
Deposit with U. S. Assistant Treasurer.....
Cash on hand.....

TRUSTEES:
GEORGE W. TRYON, President
Wm. H. Hamilton, Joe. B. Lynde
John Sonder, L. P. Leach
Peter A. Keyser, Samuel Spahr
John Philbin, Charles P. Bo
John Carrow, Samuel Seaton
Geo. I. Young, Jesse Lightfoot
mys **WILLIAM T. BUTLER**, Sec

GROCERIES.

FRESH SMOKED SALMON—Spiced & Smoked Yarmouth Herring, just received for sale by **THOMPSON BLACK & SON** and Chestnut streets.

NEWBOLD HAMS—The Genuine New England Ham, just received and for sale by **THOMPSON BLACK & SON**, Broad and Chestnut streets.

CHOICE HAVANA CIGARS—Just a lot of Havana Cigars, of our own manufacture, which we will sell by the box at low prices. **SIMON COLTON & SON**, S. B. BROAD and WALNUT.

YARMOUTH BLOATERS.—Yarmouth Herring, of extra fine quality received and for sale by **SIMON COLTON** and Chestnut streets.

ST. W. COR. BROAD AND WALNUT.
TOMATOES IN GLASS.—100 doz. Tomatoes in Glass Jars—a very article for sale by **JAMES R. WEBB**, and Eighth Streets.
SMOKED SALMON AND HERB. Smoked Salmon and Yarmouth Butter received, and for sale by **JAMES R. Webb**, Walnut and Eighth Streets.
NEW DUTCH CHEESE, ANCHOVINY. Curacao, just received and for sale by **COUSTY'S**, No. 118 South SECOND street.
PRIME CARACAS COCOA SHELLS. 100 lbs. per lb. **COUSTY'S**, No. 118 SECOND street.

ALFIERA GRAPES.—Choice Alfiera
grape clusters and first order, for sale
by **F. SPILLIN.** N. W. corner Arch and
streets.

COFFEE.—Prime old Government Java
Maco, Maracaibo, La Guayra, Rio,
sale by **F. M. SPILLIN.** N. W. corner A
Eighth streets.

MACCARONI AND VERMICELLI.—
Just received and for sale by **M. J. SPILLIN**
N. W. corner Arch and streets.

HENDRICK & CO'S CHAMPAGNE.—
Choice Sherry and Madeira Wine, due to
Younger's Scotch Ale and Guinness's Beer
for sale by **E. B. CLARKE,** Grocer and T.

ALFIERIA GRAPES. Choice Almeria grapes, for sale by **M. F. SPILLIN, N. W.** corner Arch and Main streets.

COFFEE.—Prime old Government Java, also, Maracabo, La Guayra, Rio de Janeiro and Peruvian M. W. corner Eighth streets.

MACCARONI AND VERMICELLI.—Choice Macaroni and Vermicelli, for sale by **M. F. SPILLIN**, N. W. corner Arch and Main streets.

HEDRICK'S MAGNOLIA.—A choice variety and Madeira Vine, fine for planting, for sale by **Wm. Hedrick**, at Wagner's Scotch Ale and Guinness's, above the corner of Third and Main streets.

BROKEN KANDY. Depot, Virginia City, for sale by **Wm. Hedrick**, at Wagner's Scotch Ale and Guinness's, above the corner of Third and Main streets.

DRUGS.—Barn's Almonds, and Mixtures; all the best of the season, for sale by **Wm. Hedrick**, at Wagner's Scotch Ale and Guinness's, above the corner of Third and Main streets.

FRENCH PEAS.—Champion, and French Sardines, of a fresh importation; for sale by **E. B. CLARKE**, dealer in fine groceries, at the corner of Third and Main streets.

REFINED SUGARS AND SYRUPS.—All grades manufactured at the Southwestern Refining and Sugar Company, for sale by **E. C. KNIGHT & CO.**, Southeast corner Third and Main streets.

FRESH OLIVE OIL in whole, half, and bottles, for sale by **E. B. CLARKE**, Main street, adjoining Railroad Depot, Germantown.

FRESH GROCERIES FOR CHRISTMAS—New Raisins, Currants, Oltrons, Figs, and Almonds. Just received fresh, by **E. B. CLARKE**, dealer in fancy and groceries, Main street, adjoining Railroad Germantown.

TOBACCO AND SEGARS.

PENNSYLVANIA SEA LEAF TOBACCO—19 Cases Pennsylvania Sea Leaf Wrappers. For Sale by

FRESH OLIVE OIL In white, half and bottles, for sale by E. B. OLARKE, Main street, adjoining Railroad Depot, Gt. town.

FRESH GROCERIES FOR DRISTS, such as Apples, Peaches, Corn, Beans, Eggs and Almonds. Just received, from E. B. OLARKE, dealer in fancy and grocery, Main street, adjoining Railroad Germantown.

TOBACCO AND SEGARS.

PENNSYLVANIA SEA LEAT WRAPPERS 19 Cases Pennsylvania Sea Leaf Tobacco, Fine Cut, for Sale by GEORGE ALKIN & CO., 154 North DELAWARE nue.

HAVANA CIGARS.—3000 Havana Cigars, received per Erik Marie Louise, and for GEORGE ALKIN & CO., 154 North DE-

HAVANA CIGARS.
A good assortment stationed in Store Room, at STEPHEN FUGETT, Importer mh3-3mo)

—30 CASES OF ANDERSON'S Pennada, 67 cases Pennsylvania Seed Tobacco, for Sale by JAMES W. KENTUCKY Shipping Tobacco. For sale

FRESH OLIVE OIL in whole, half, and bottles, for sale by **E. B. CLARKE**, Main street, adjoining Railroad Depot, G. town.

FRESH GROCERIES FOR CHRISTMAS.—**New Raisins, Currants, Olives, Figs, and Almonds.** Just received fresh, by **E. B. CLARKE**, Main street, adjoining Railroad Depot, G. town.

TOBACCO AND SEGARS.

PENNSYLVANIA SEA LEAF TOBACCO.—**19 Cases** Pennsylvania Sea Leaf Virginia Fillets, in store and for sale by **GEORGE KINGS & CO.**, 154 North Delaware street.

HAVANA CIGARS.—**3000 Havana Cigars** received per **Eric Marie Louisa**, and for sale by **GEORGE KINGS & CO.**, 154 North Delaware street.

HAVANA CIGARS.—**A good assortment** contained in **St. Bond** at lowest rates for cash.

STEPHEN EUGEST, Importer mh2-2mo4 No. 216 S. Front St.

TOBACCO.—**30 CASES** ANDERSON'S "A" Fonnets, 57 cases Pennsylvania Sea Leaf Tobacco, 45 Hds. Maryland Tobacco, 25 Kentucky Shipping Tobacco, For sale by **GOLDEN & WARTMAN**, No. 103 North Street.

VIRGINIA MANUFACTURED TOBACCO.—**THE FIRST ARRIVAL** Since THE BROKE OUT — 35 boxes superior ware just received from Norfolk, now landing at schooner Florence, and for sale by **GOLDEN & WARTMAN**.

General Agent Union Steamship Company
14 North Delaware street.