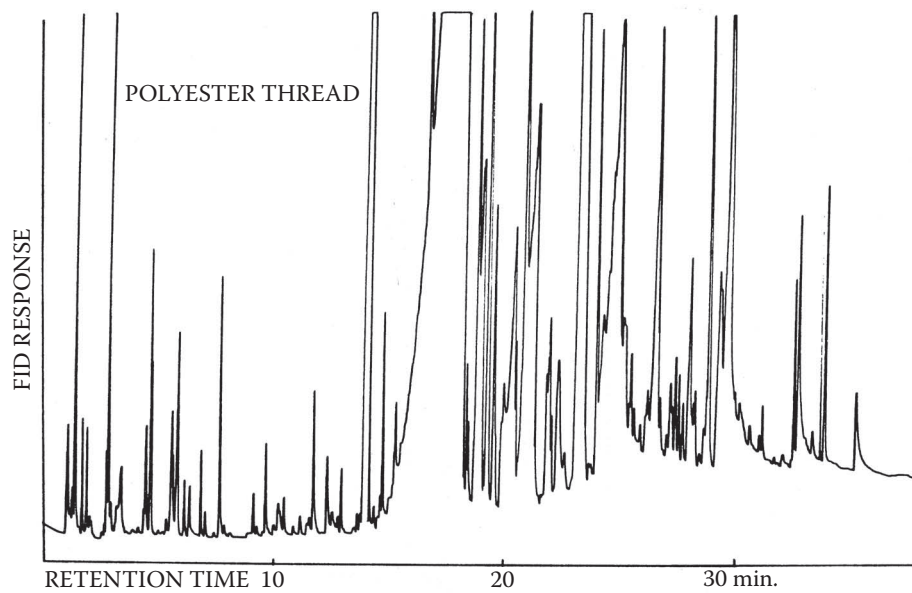
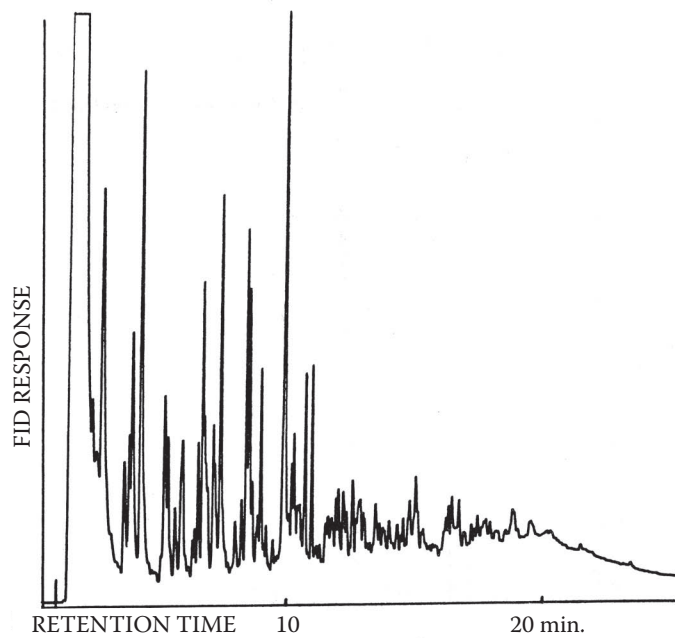


Pyrogram S-1: Kraton 1107

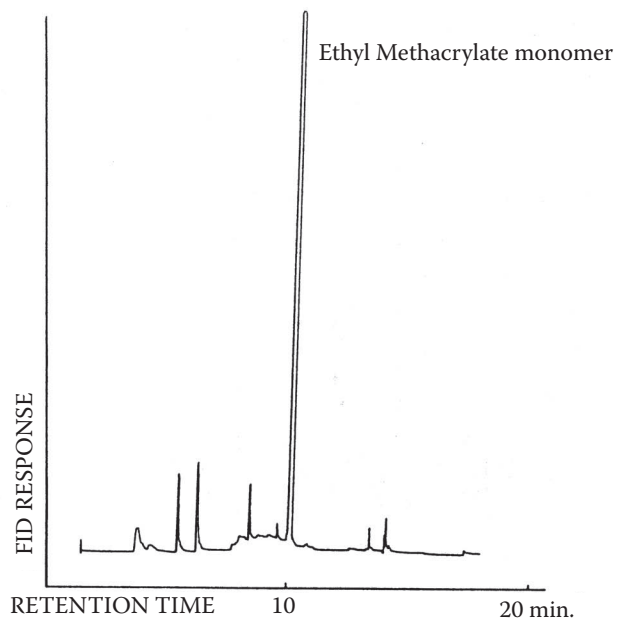
Kraton is a copolymer of styrene and isoprene.



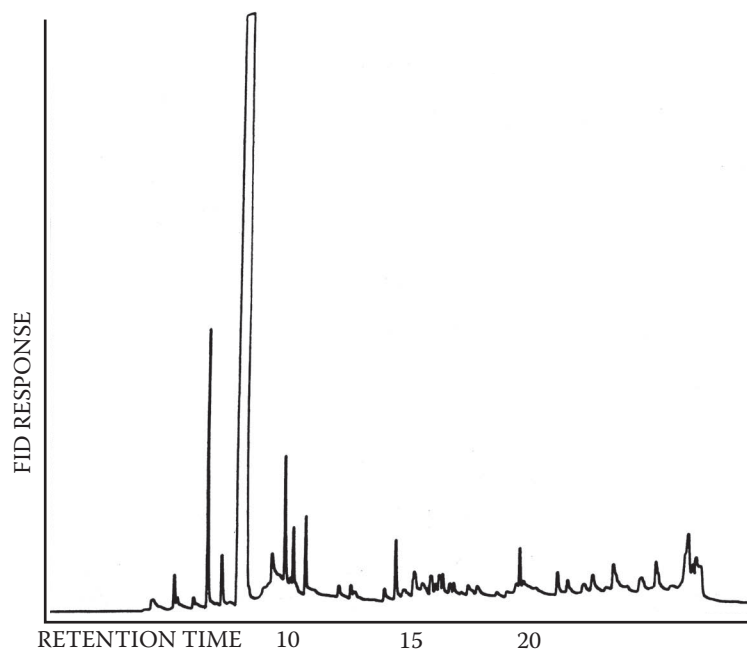
Pyrogram S-2: Polyester shirt thread



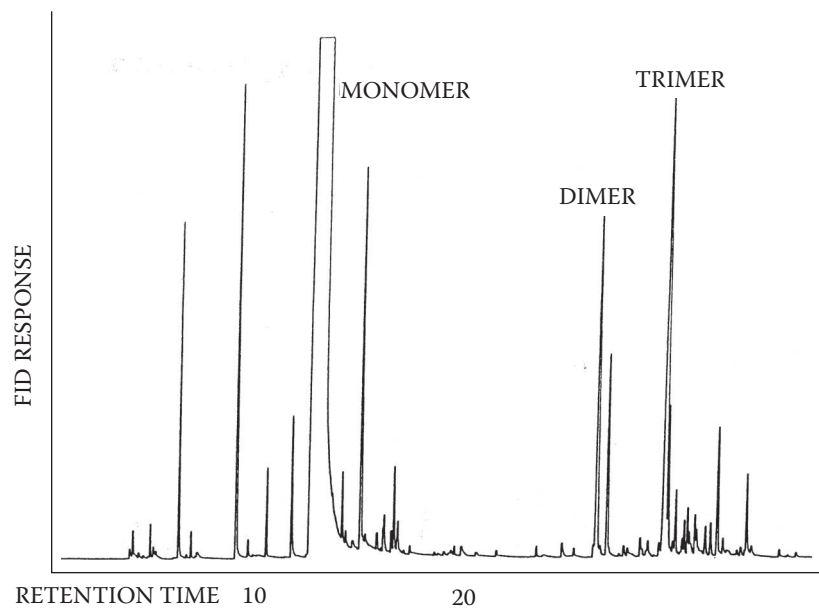
Pyrogram S-3: Polychloroprene



Pyrogram S-4: Polyethyl methacrylate

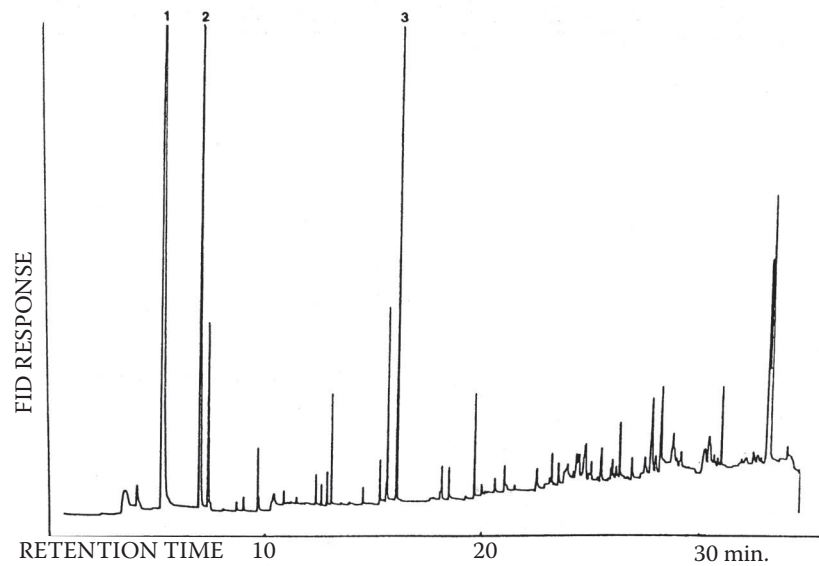


Pyrogram S-5: Polymethyl methacrylate



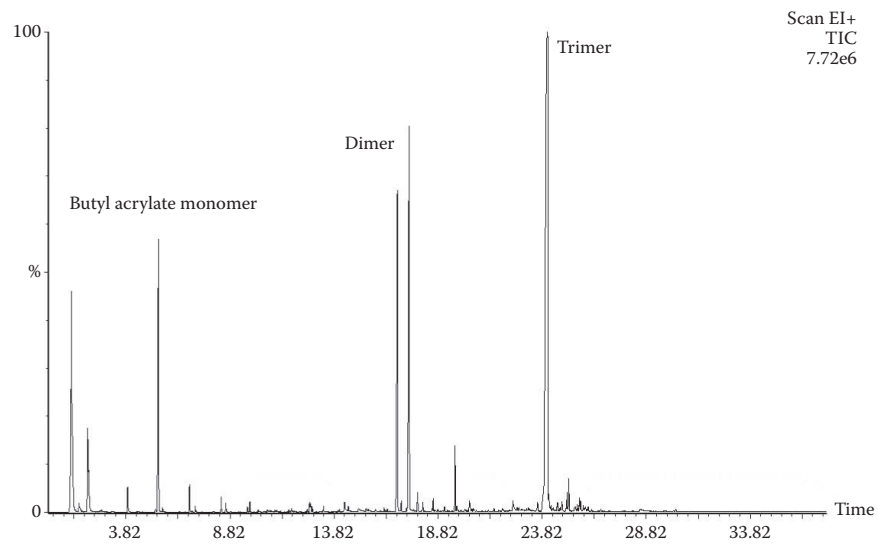
Pyrogram S-6: Polystyrene

Peak numbers: 1 = monomer, 2 = dimer, 3 = trimer

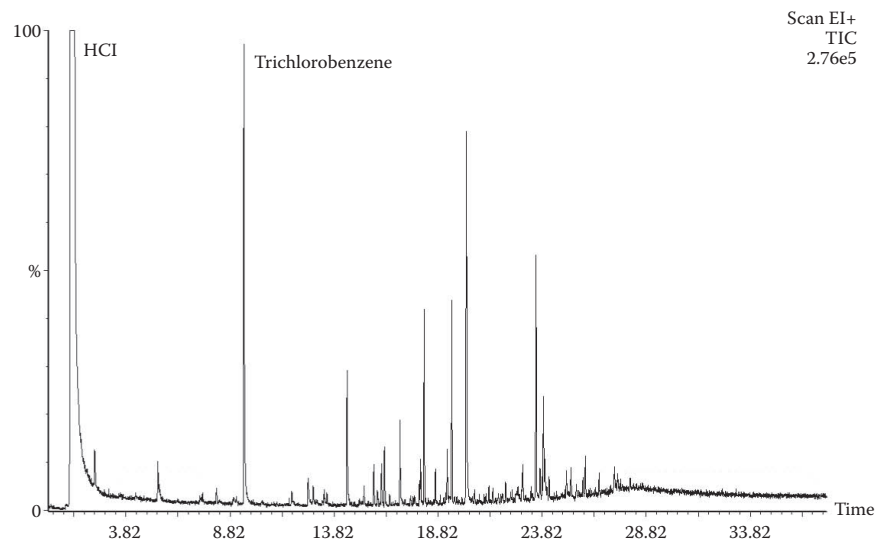


Pyrogram S-7: Polyvinyl chloride

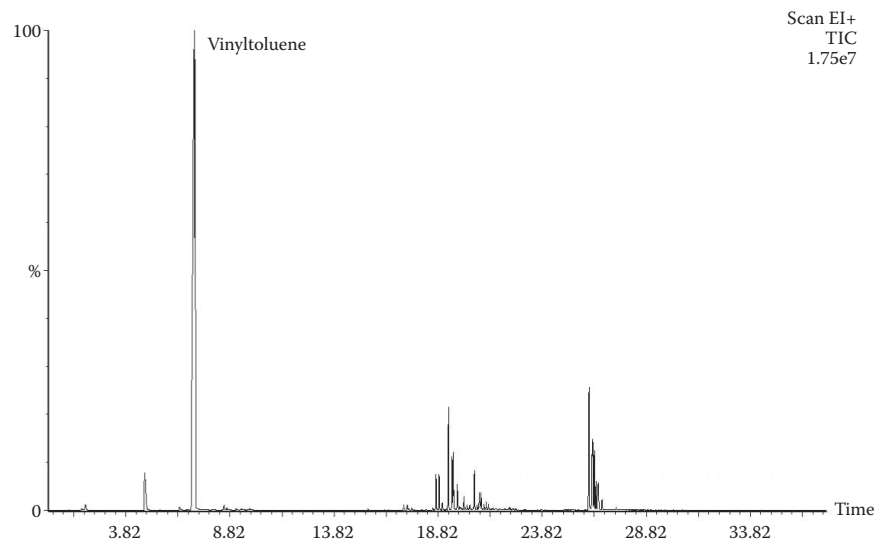
Peak number: 1 = benzene, 2 = toluene, 3 = naphthalene



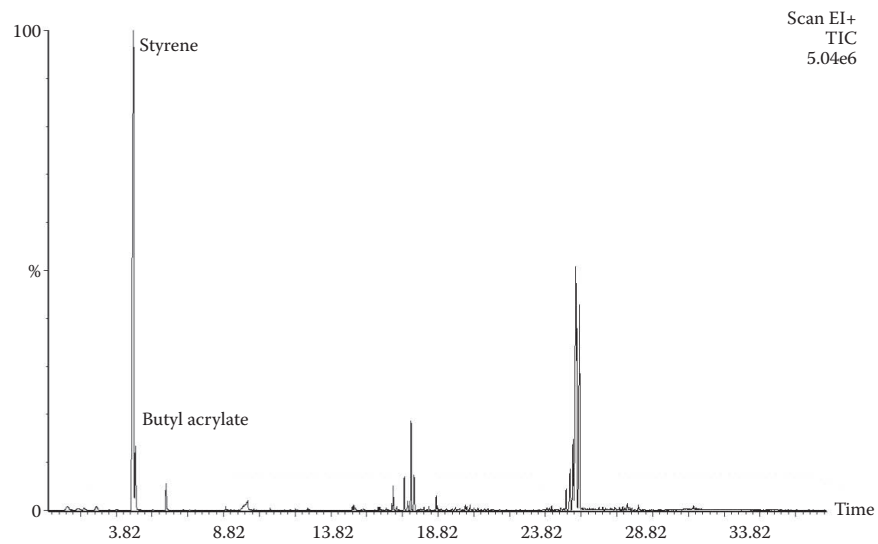
Pyrogram S-8: Polybutyl acrylate



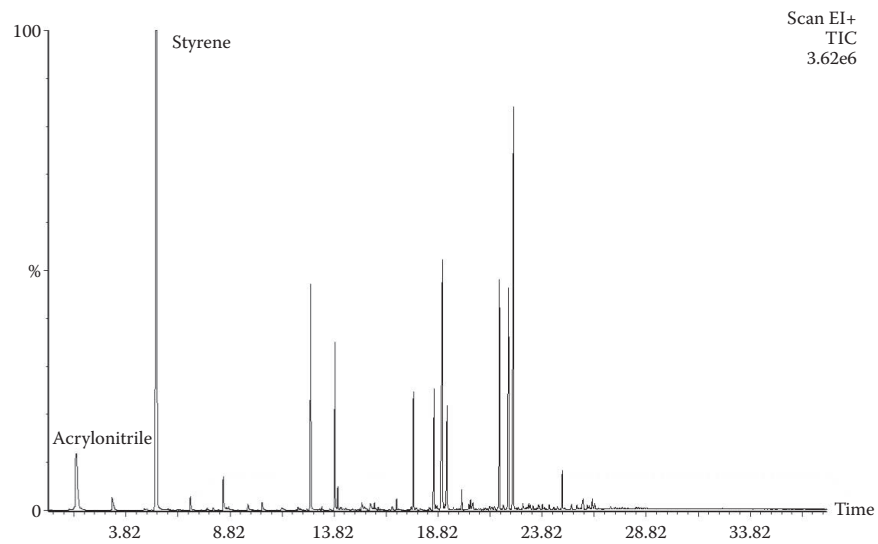
Pyrogram S-9: Polyvinylidene chloride



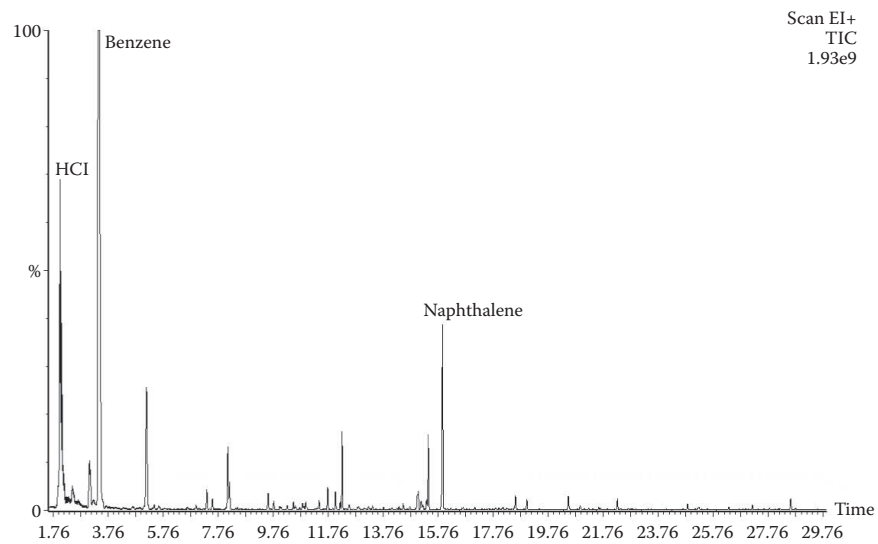
Pyrogram S-10: Polyvinyl toluene



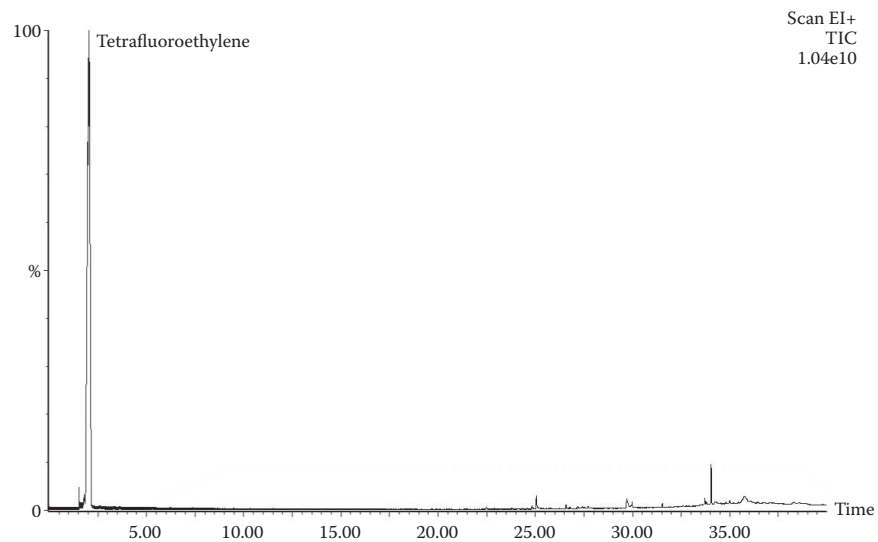
Pyrogram S-11: Polystyrene butyl acrylate



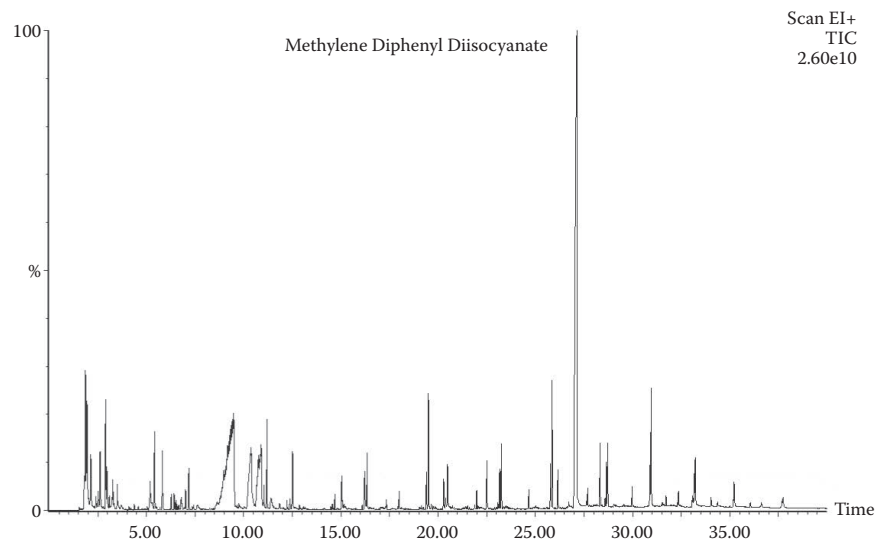
Pyrogram S-12: Polystyrene acrylonitrile



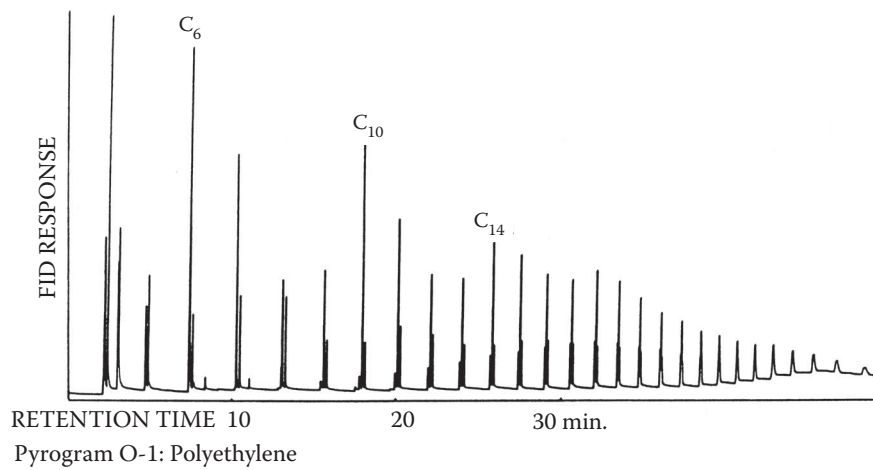
Pyrogram S-13: Polyvinyl chloride

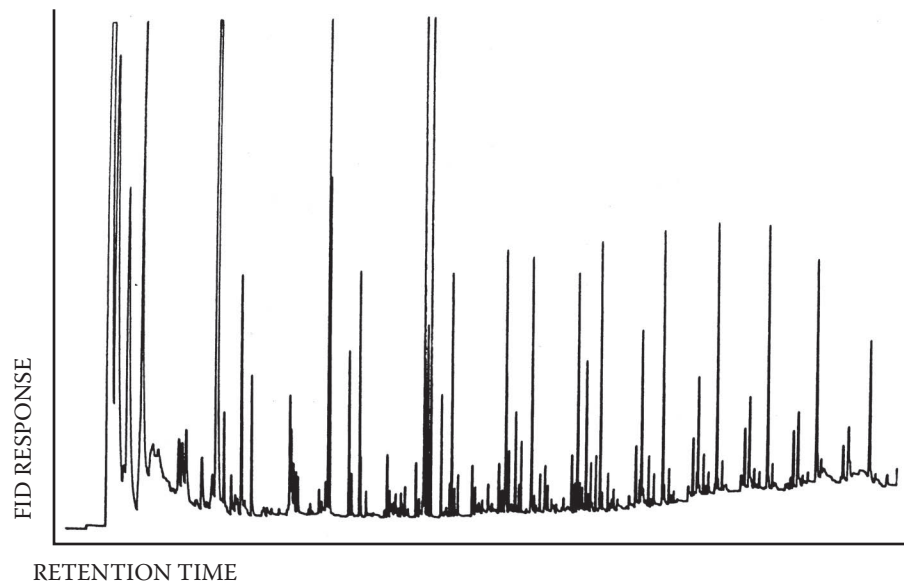


Pyrogram S-14: Teflon

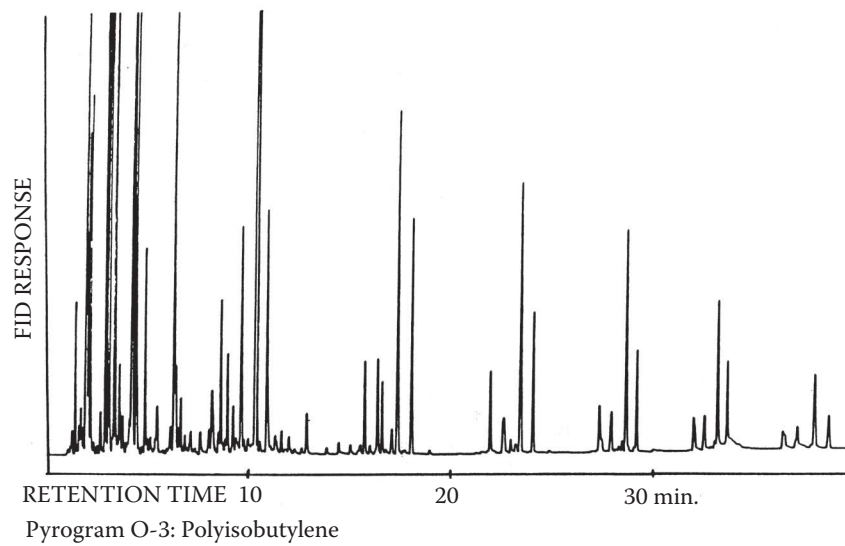


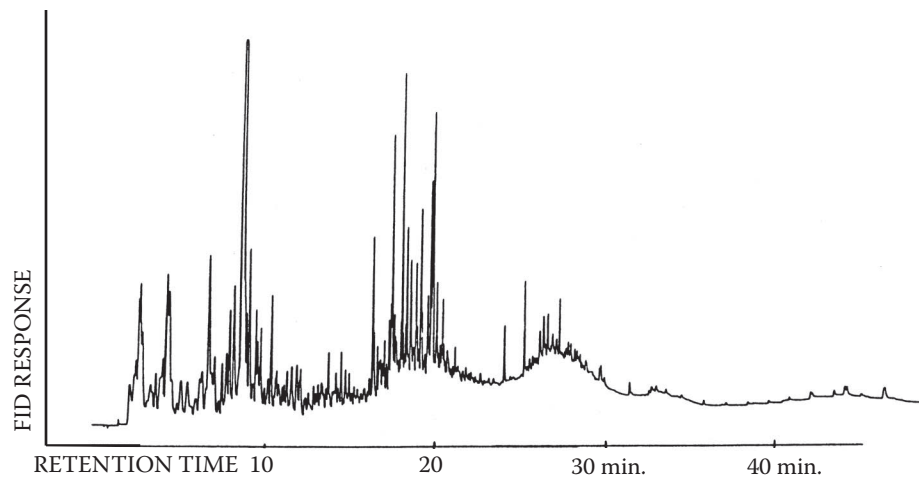
Pyrogram S-15: Polyurethane



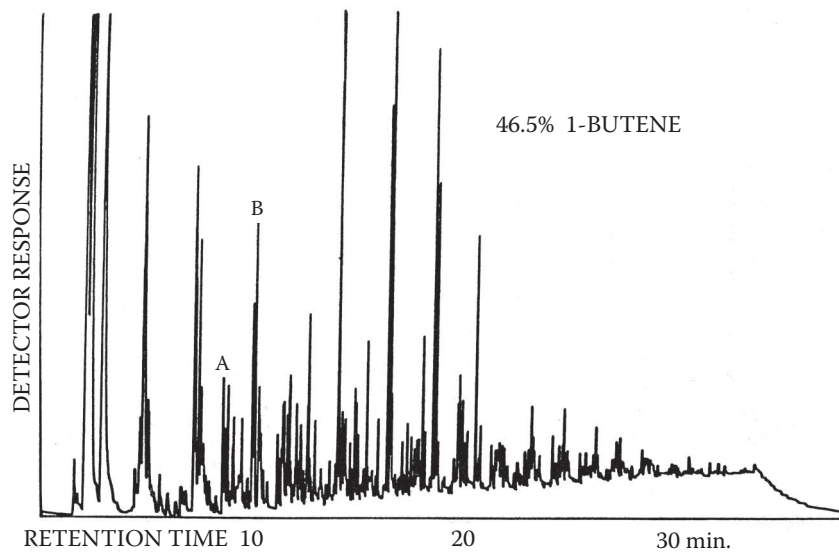


Pyrogram O-2: Polypropylene, isotactic

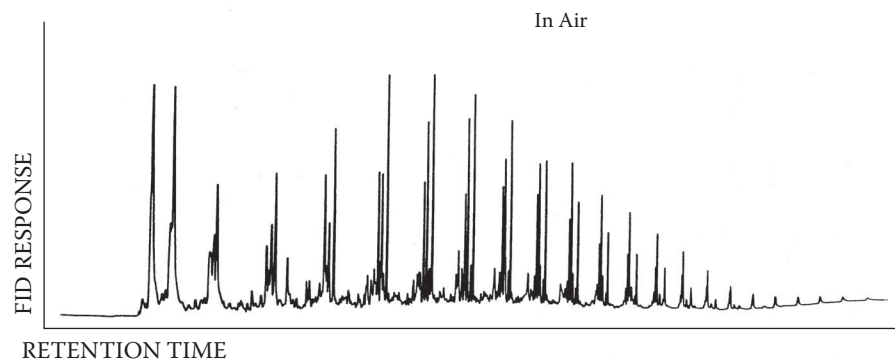




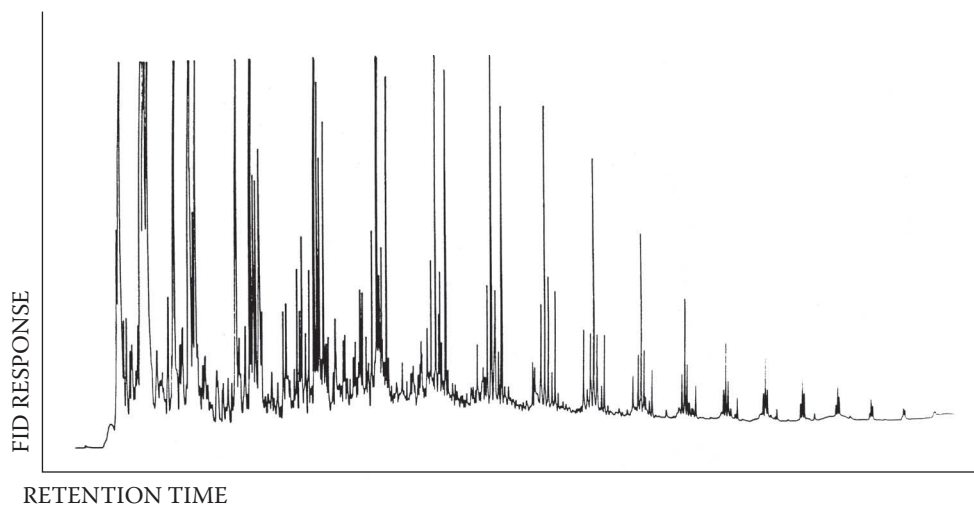
Pyrogram O-4: Polybutadiene



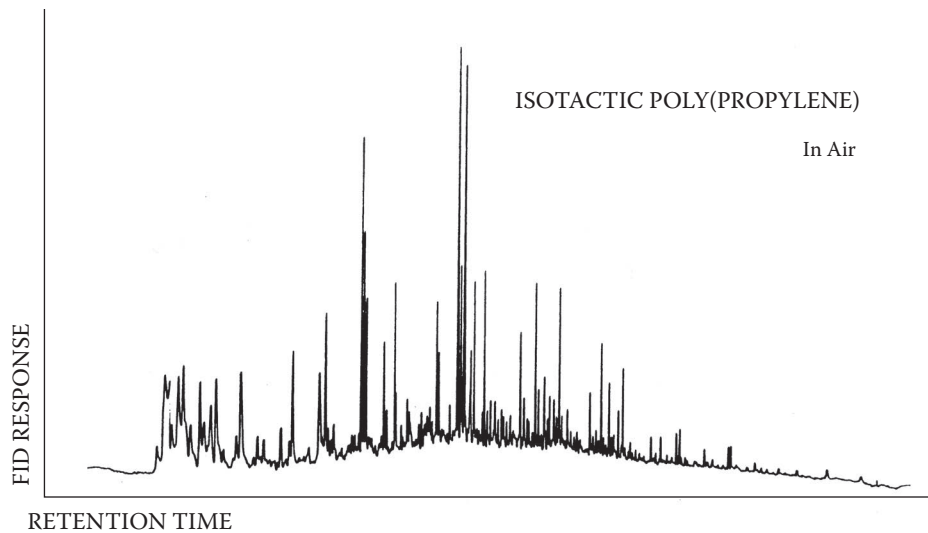
Pyrogram O-5: Polypropylene-1-butene
Copolymer (butene content = 47%)



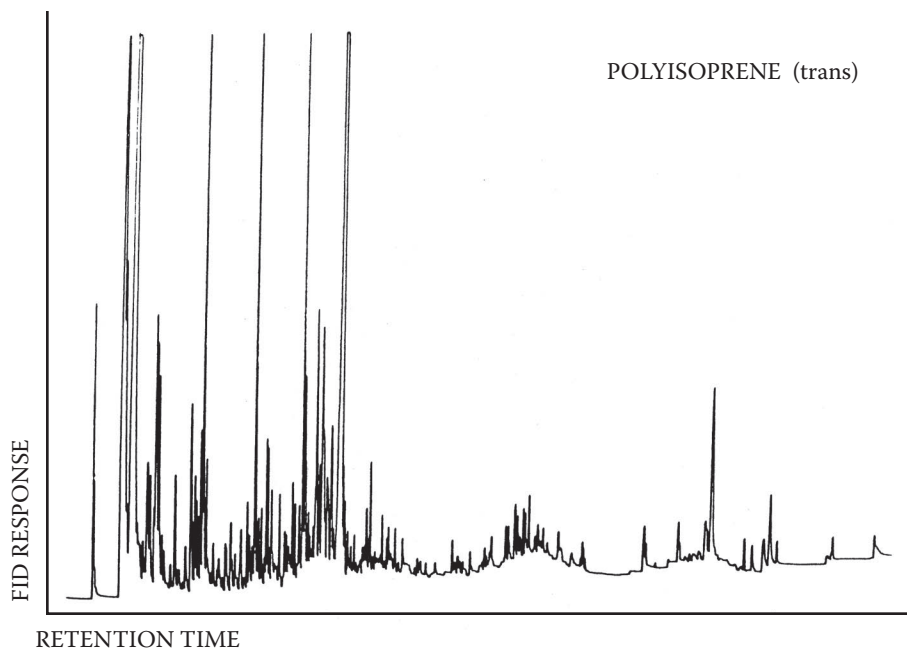
Pyrogram O-6: Polyethylene in air



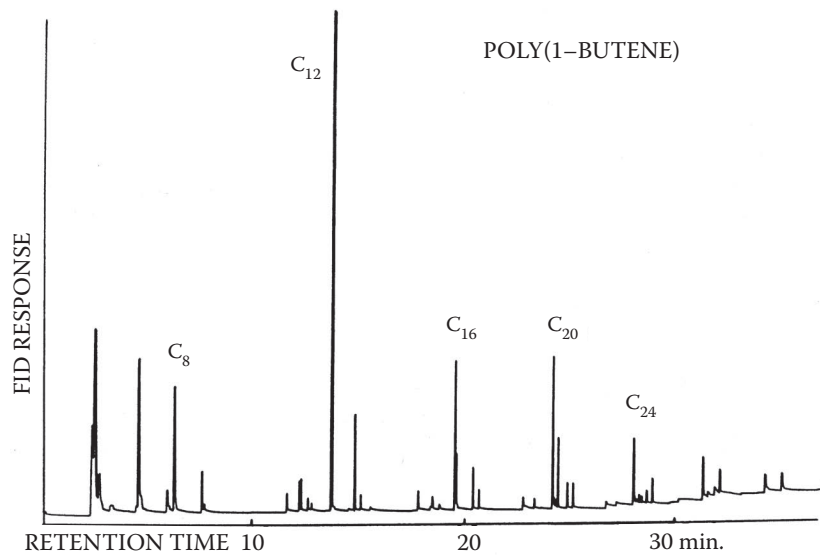
Pyrogram O-7: Polyethylene in air



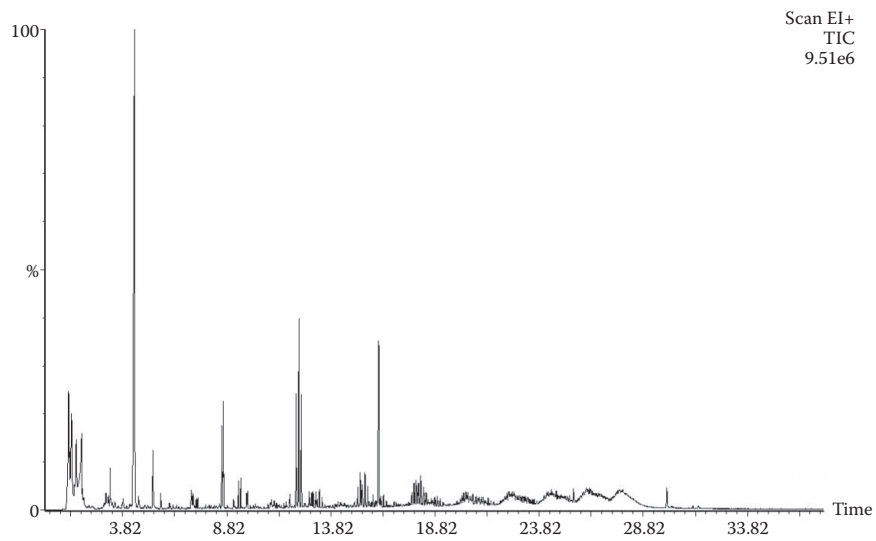
Pyrogram O-8: Polypropylene in air
Heating rate = 100°/sec



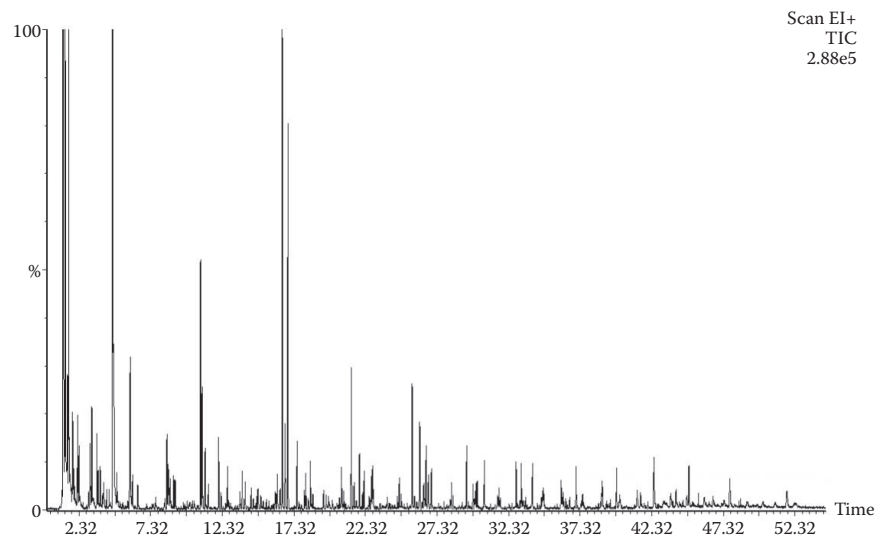
Pyrogram O-9: Polyisoprene



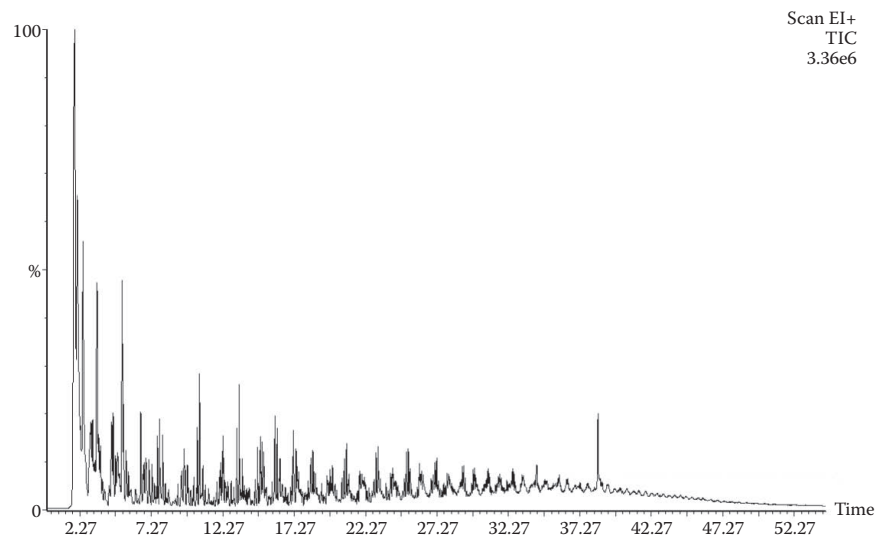
Pyrogram O-10: Poly 1-butene



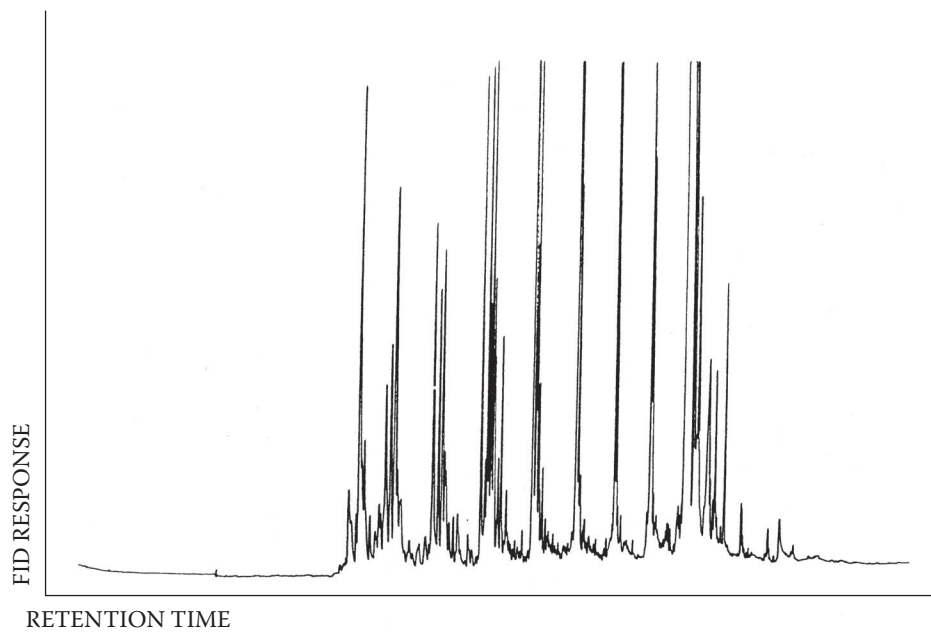
Pyrogram O-11: Polypropylene, atactic



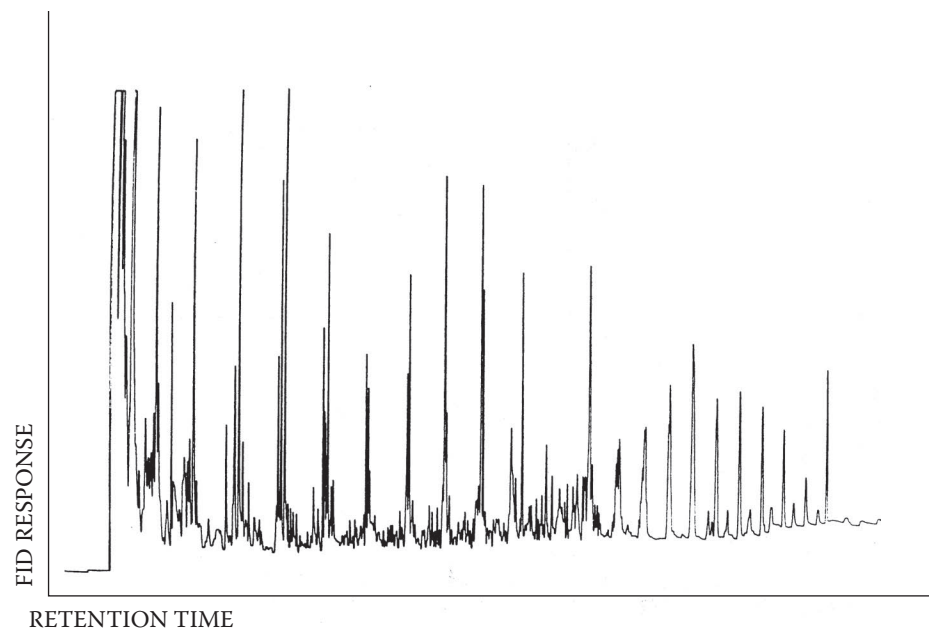
Pyrogram O-12: Polyethylene (25%) propylene



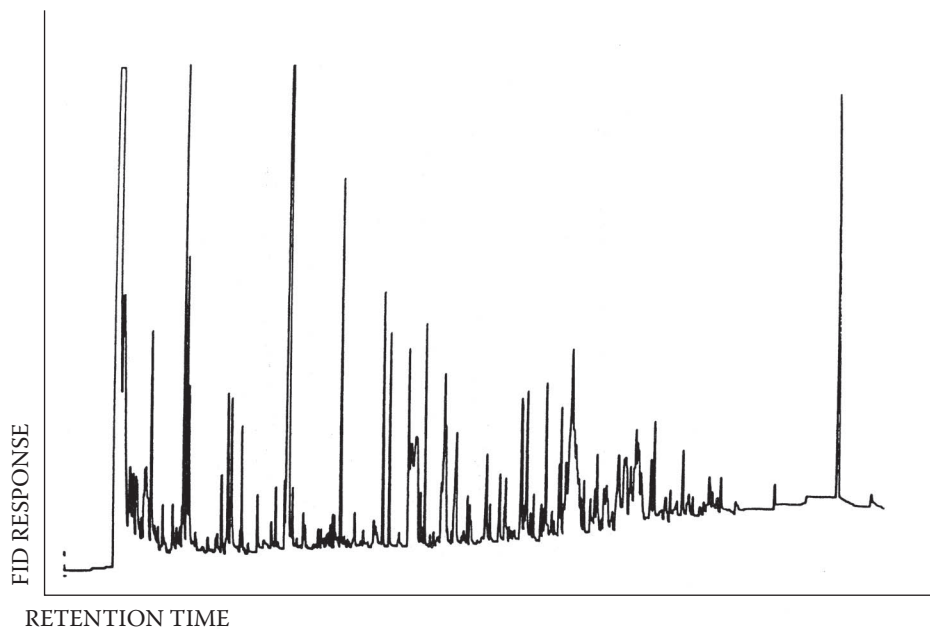
Pyrogram O-13: Ethylene (52%) propylene rubber



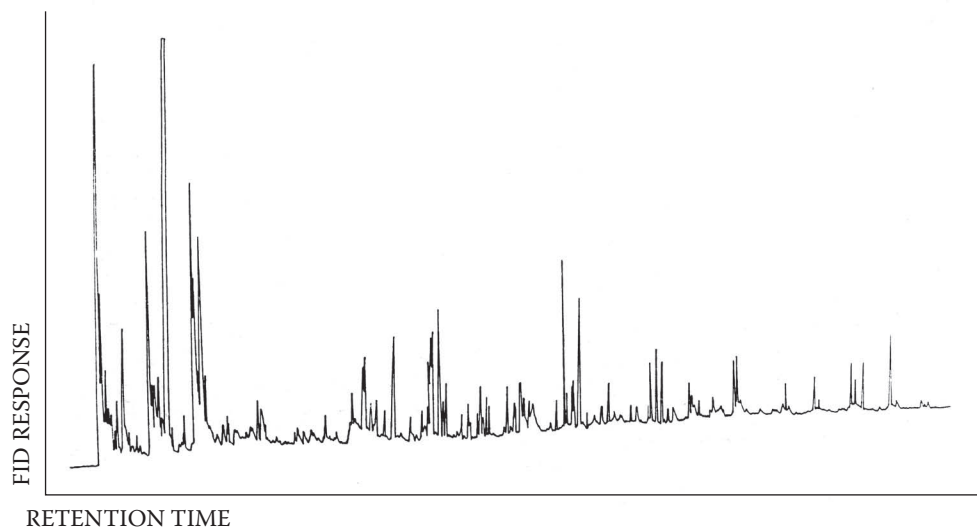
Pyrogram N-1: Nylon 11



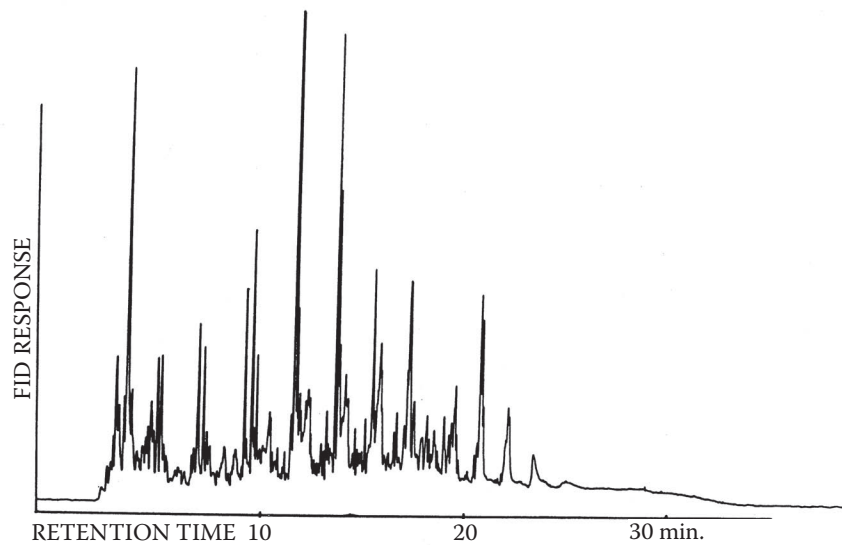
RETENTION TIME
Pyrogram N-2: Nylon 12



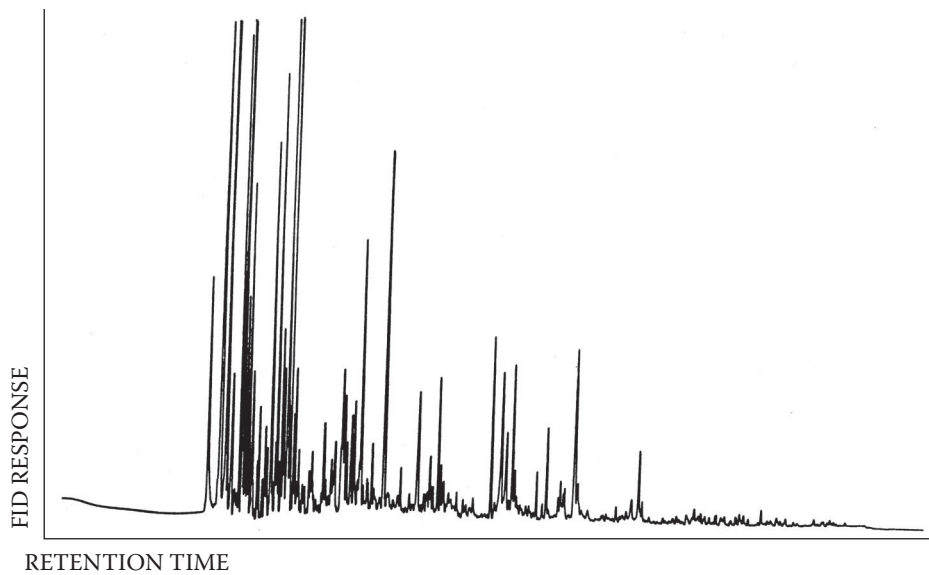
Pyrogram N-3: Nylon 6/T



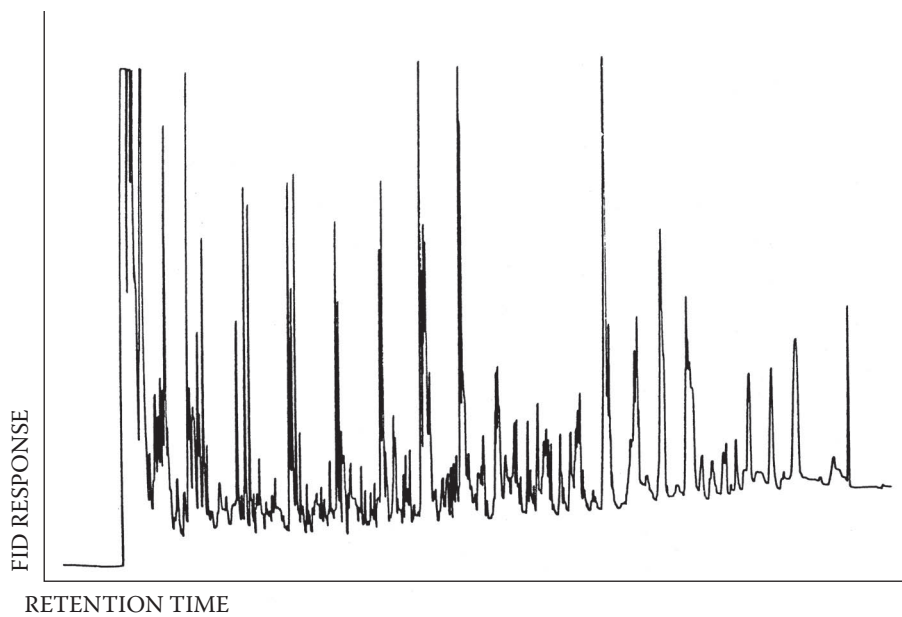
Pyrogram N-4: Nylon 6/6



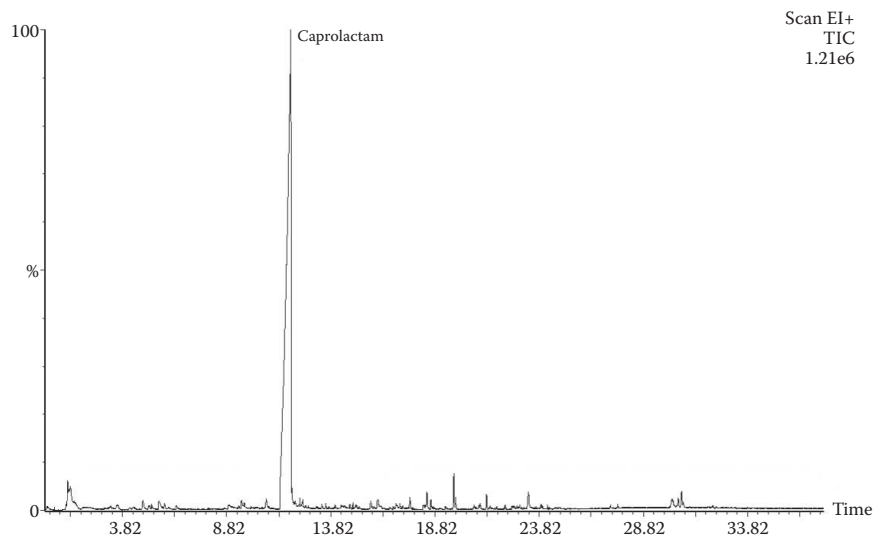
Pyrogram N-5: Nylon 6/9



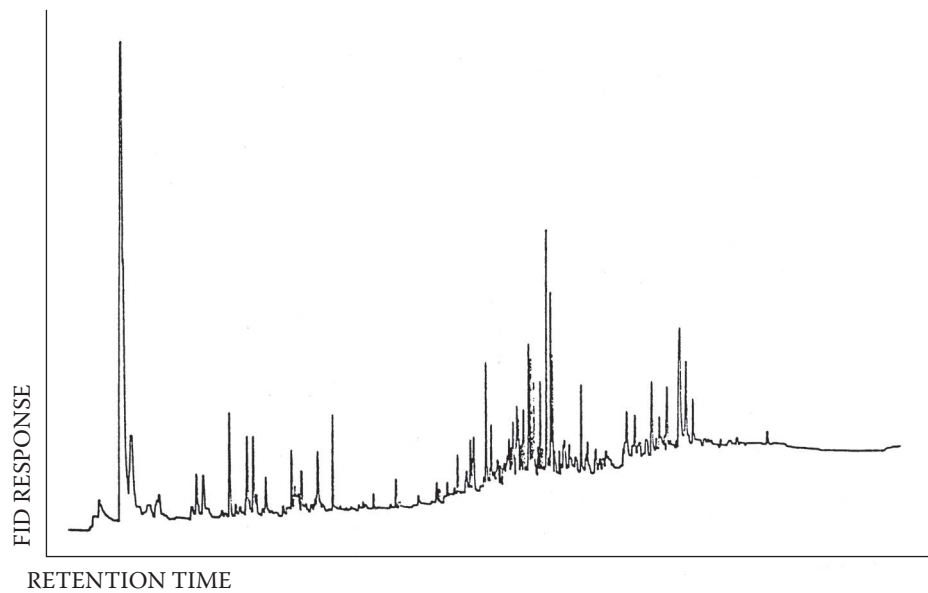
Pyrogram N-6: Nylon 6/10



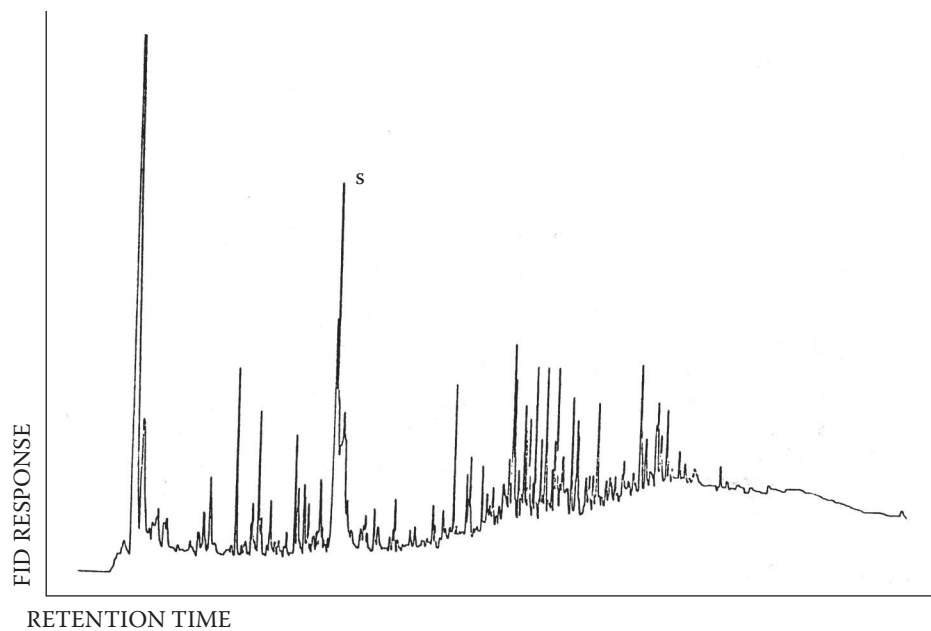
Pyrogram N-7: Nylon 6/12



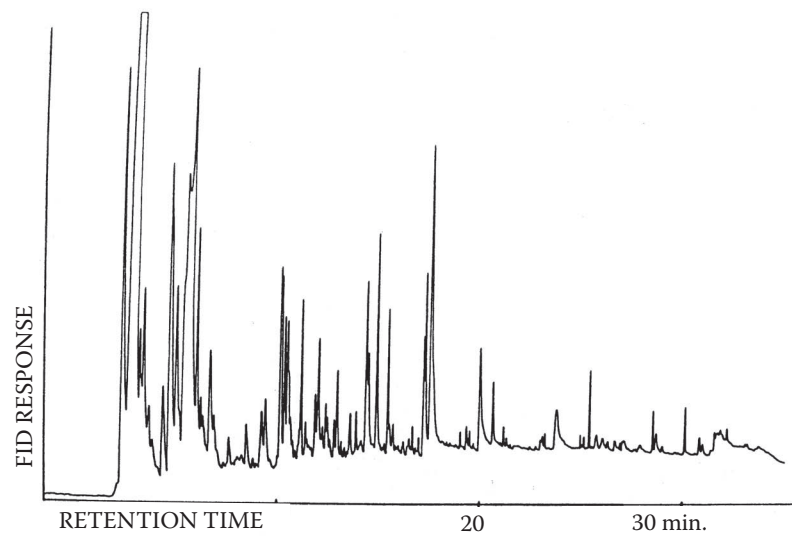
Pyrogram N-8: Nylon 6/6



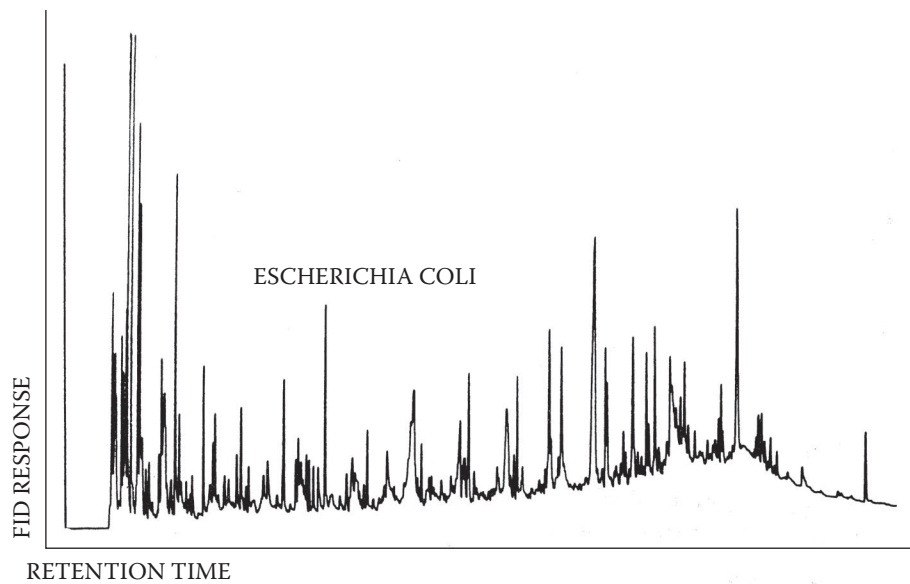
Pyrogram B-1: Amber



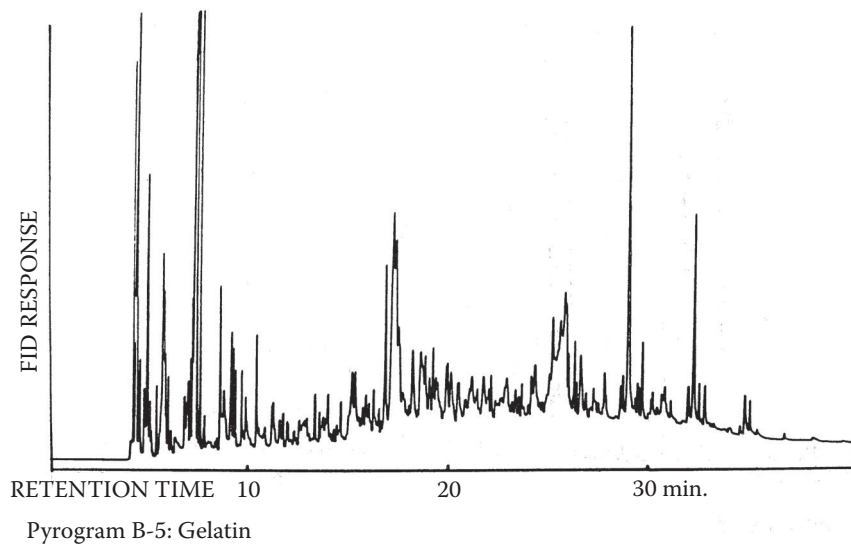
Pyrogram B-2: Baltic amber
Peak marked *S* is succinic acid

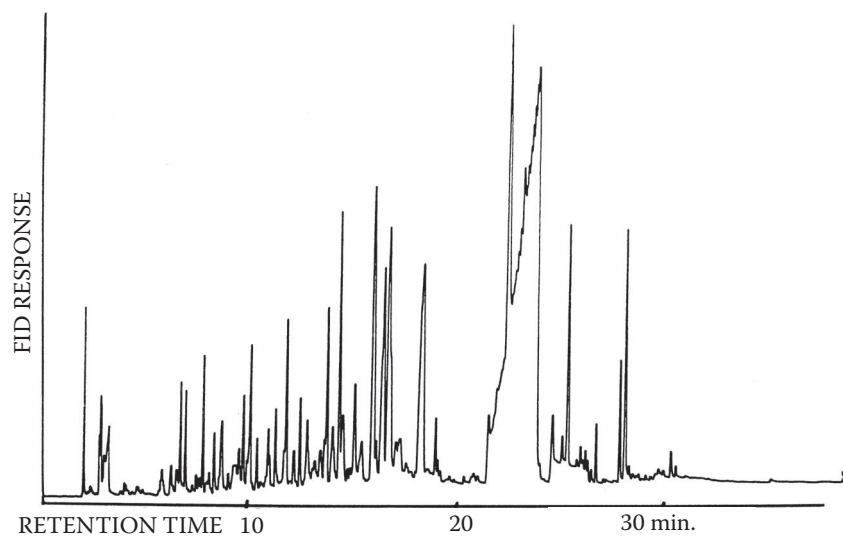


Pyrogram B-3: Chitin from crab shells

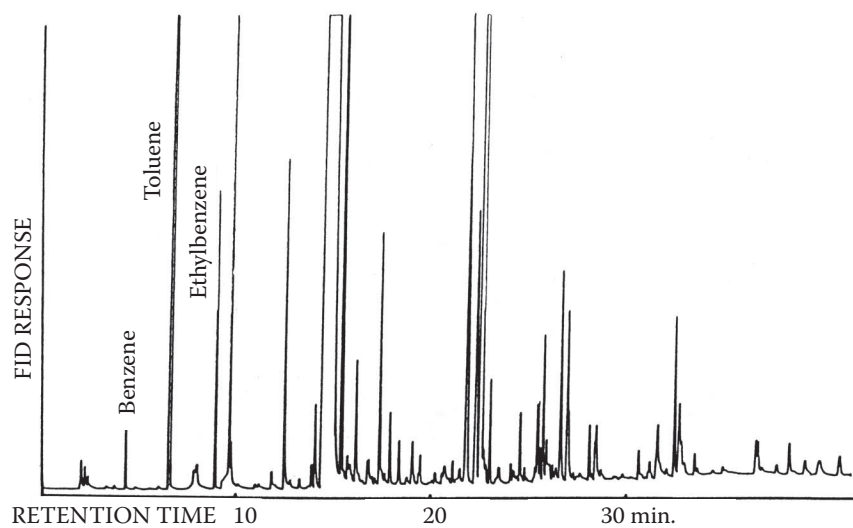


Pyrogram B-4: *E. coli* bacteria



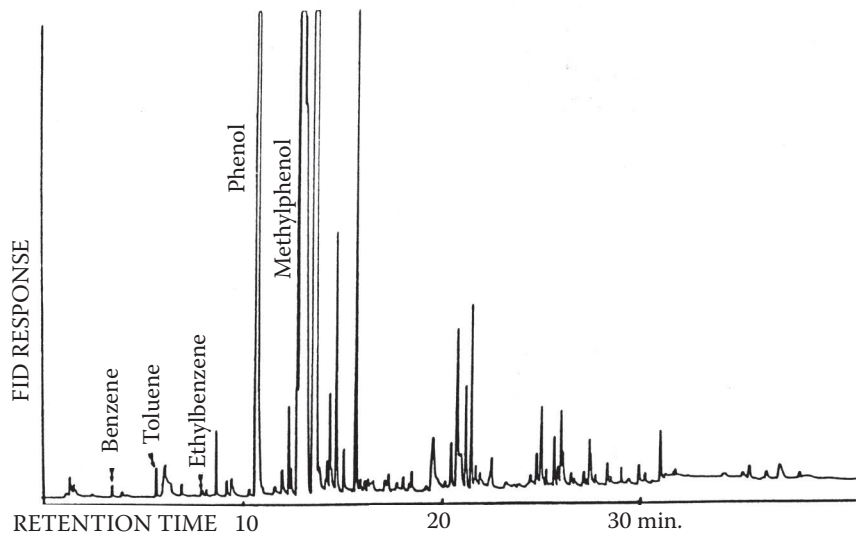


Pyrogram B-6: Starch



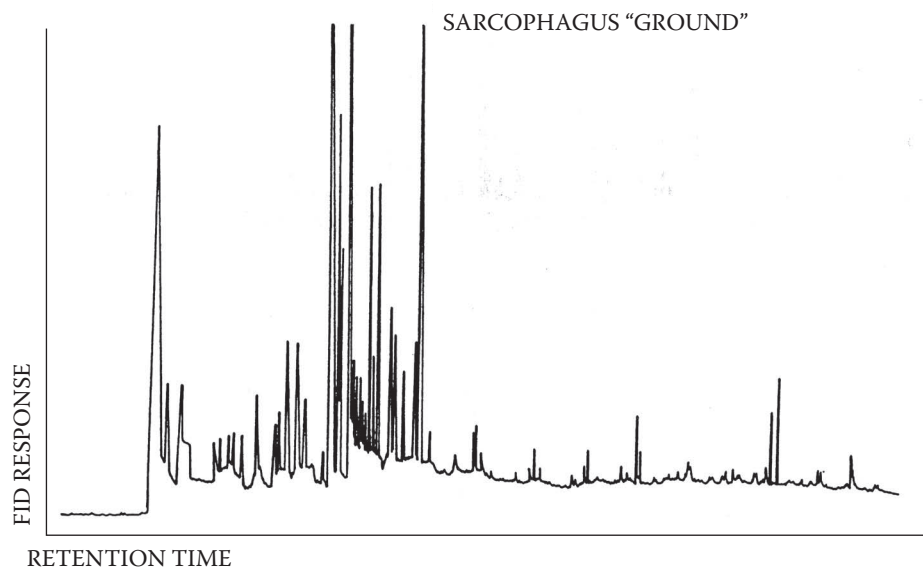
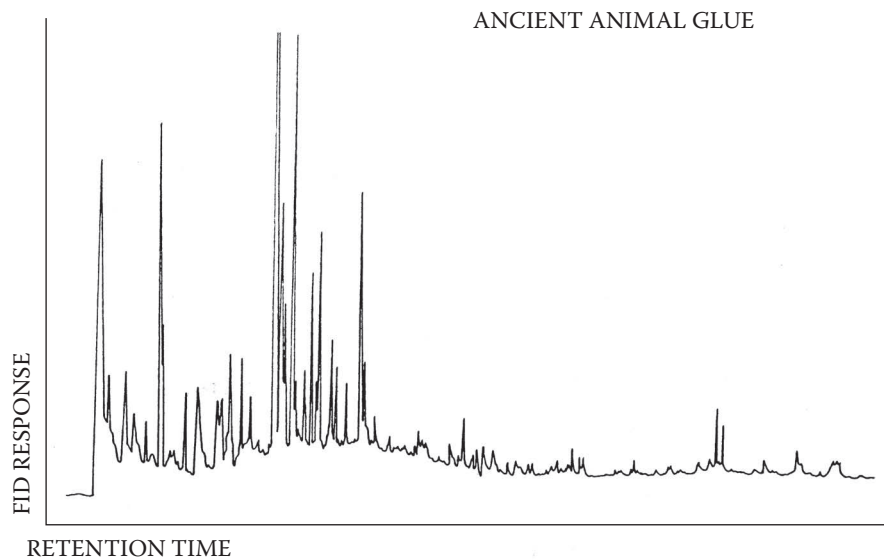
Pyrogram B-7: Phenylalanine

Peak numbers: 1 = benzene, 2 = toluene, 3 = ethyl benzene

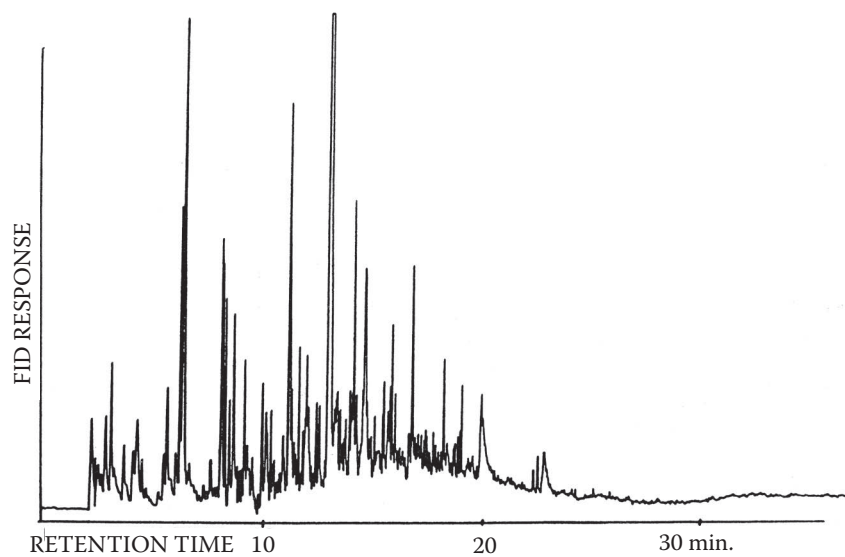


Pyrogram B-8: Tyrosine

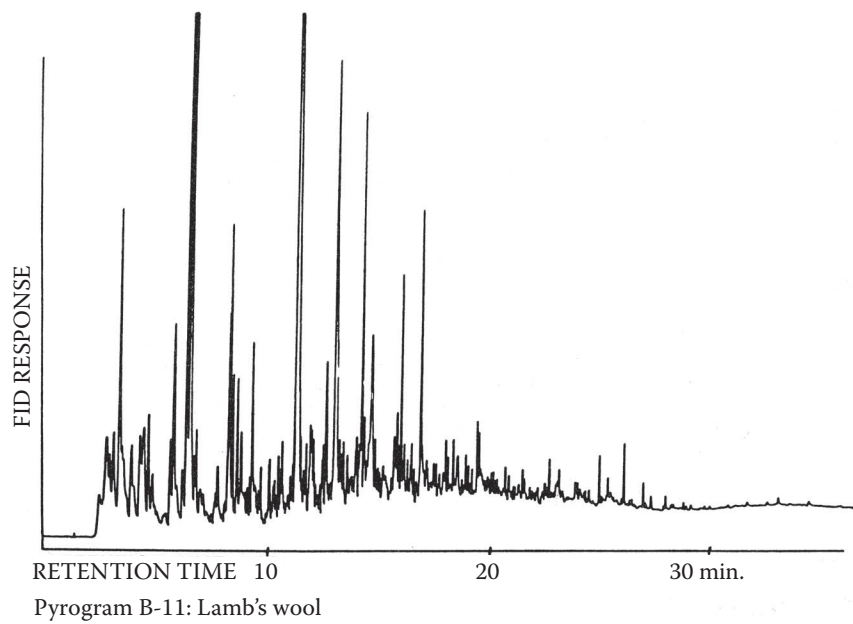
Peak numbers: 1 = benzene, 2 = toluene, 3 = ethyl benzene, 4 = phenol, 5 = methyl phenol

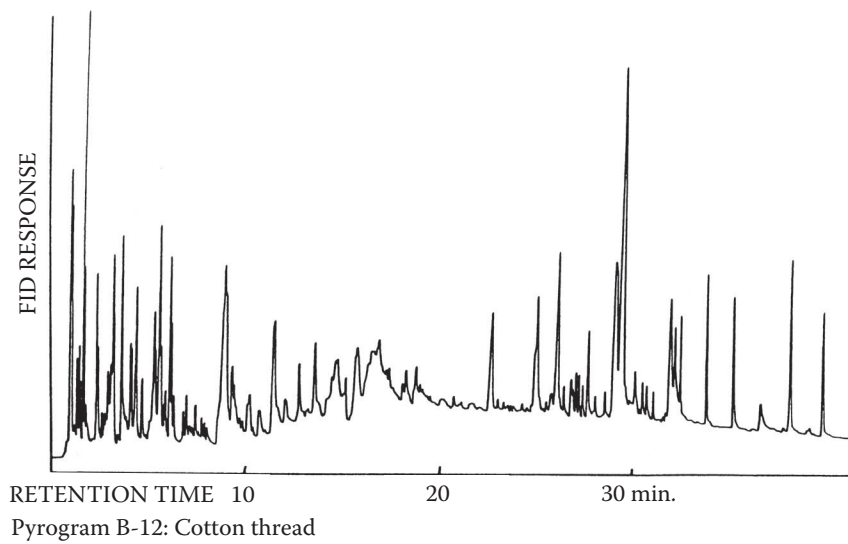


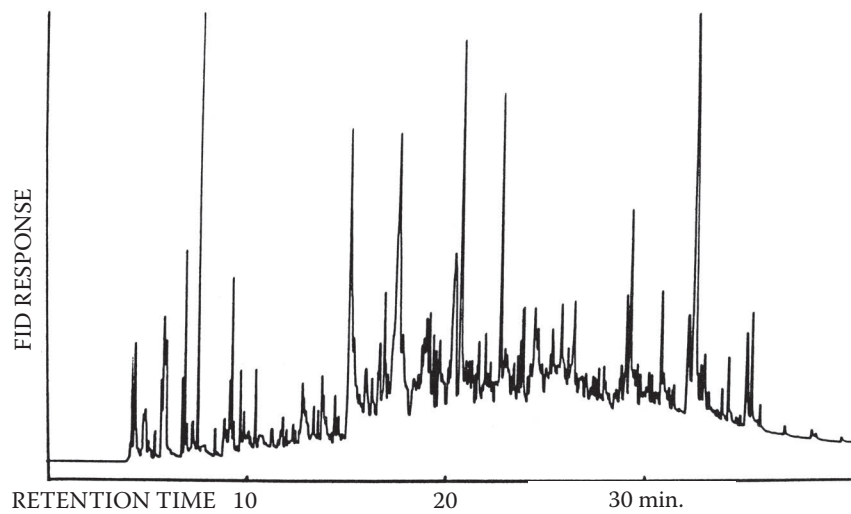
Pyrogram B-9: Animal glue
From a 1500-year-old Egyptian artifact



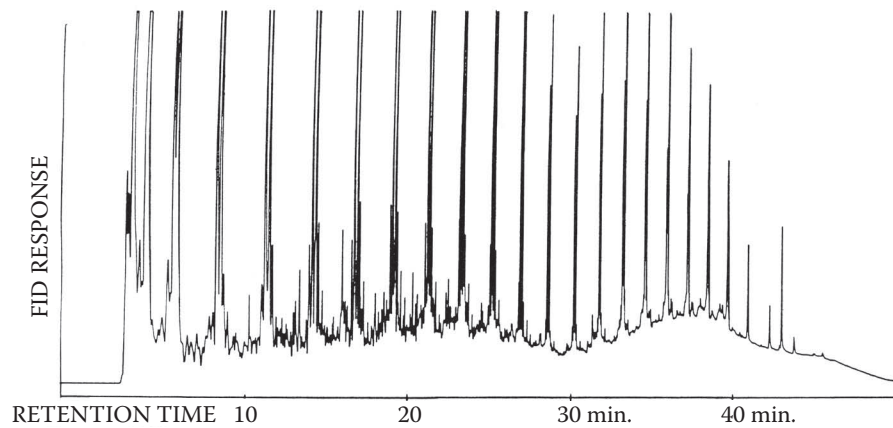
Pyrogram B-10: Human hair



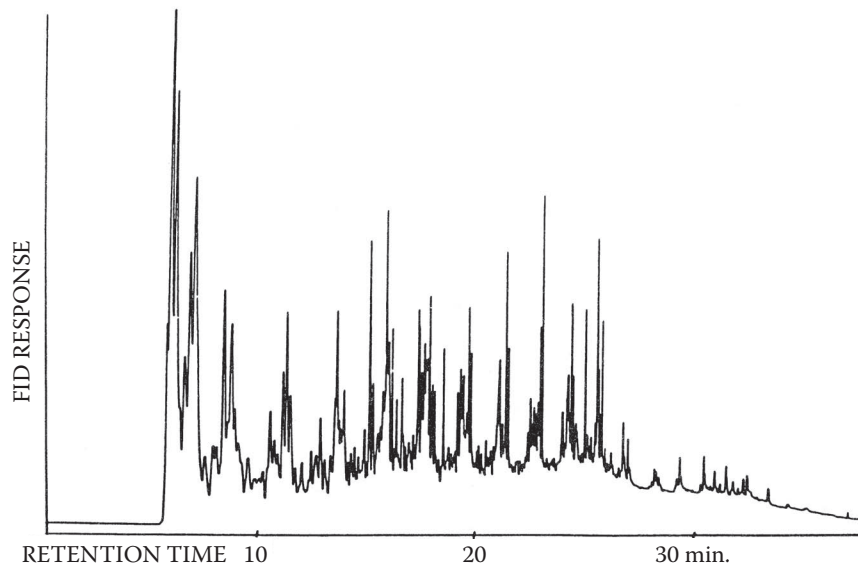




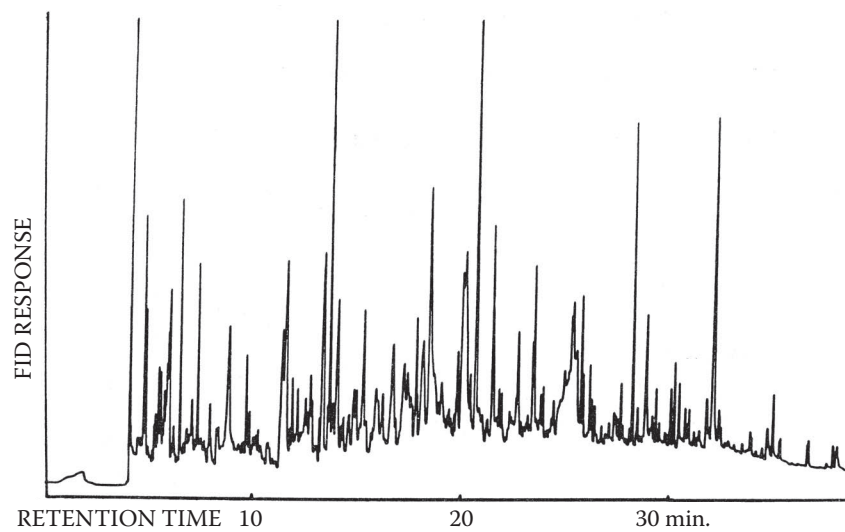
Pyrogram B-13: Human fingernail



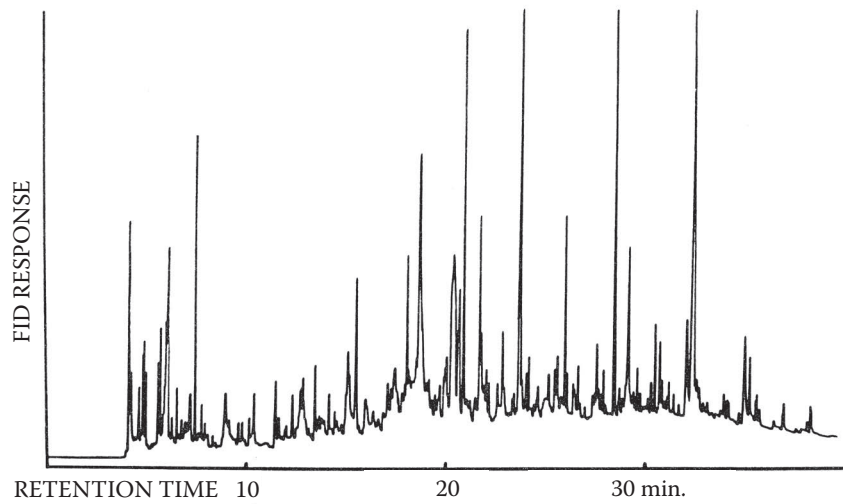
Pyrogram B-14: Kerogen



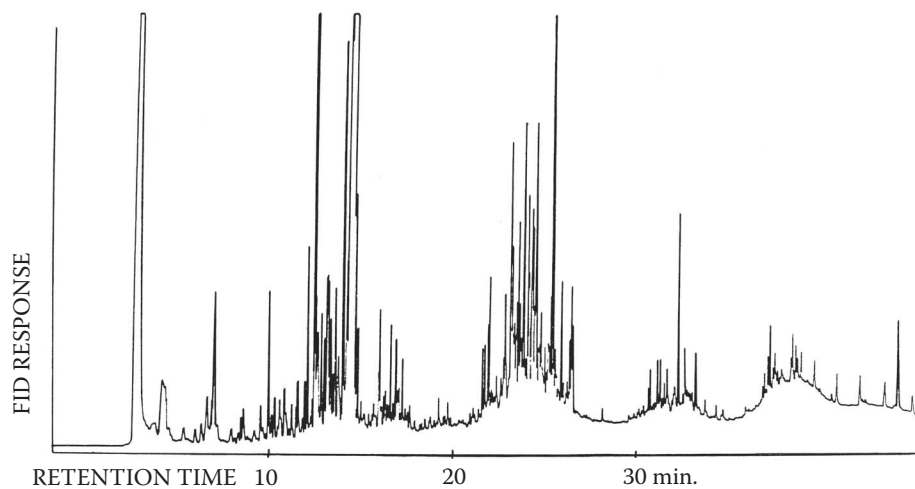
Pyrogram B-15: Dried linseed oil



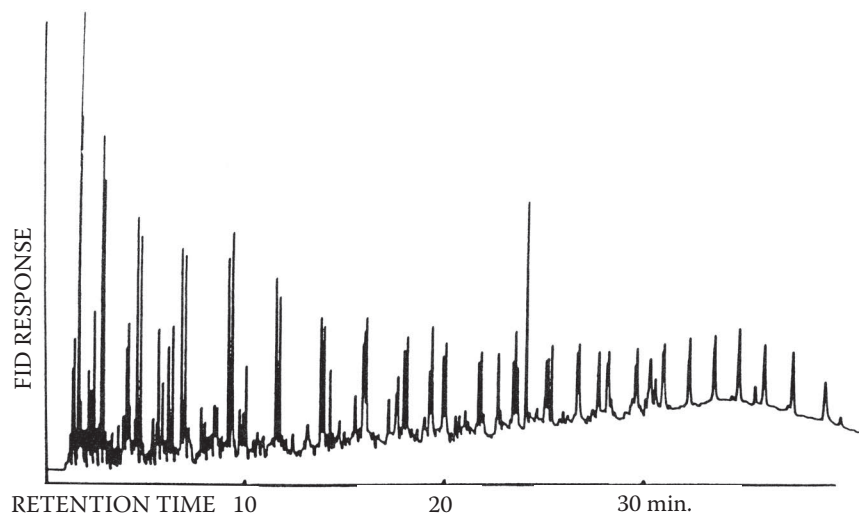
Pyrogram B-16: Straw



Pyrogram B-17: Oak leaf

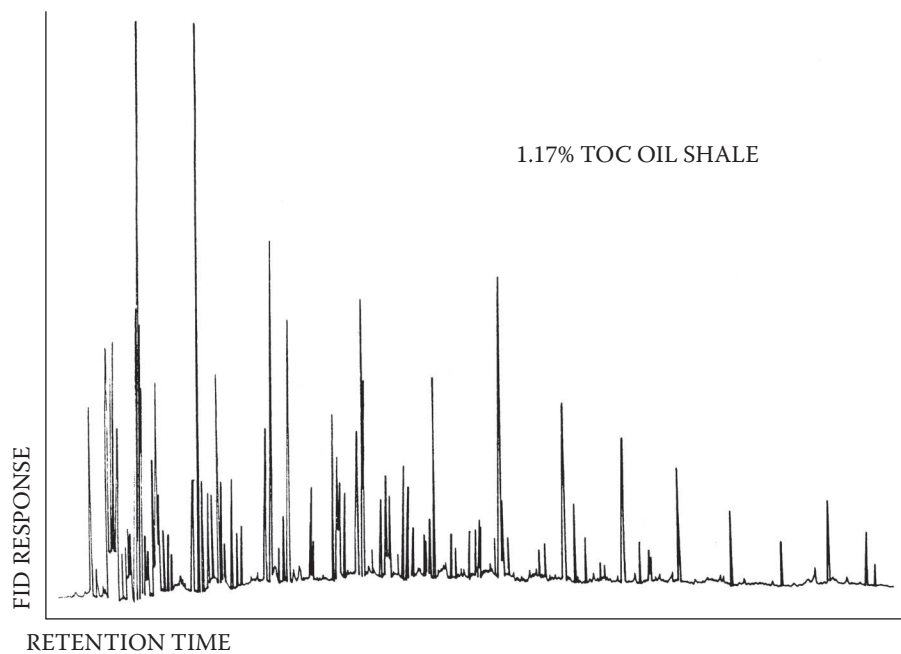


Pyrogram B-18: Natural rubber
Polyisoprene, cis configuration



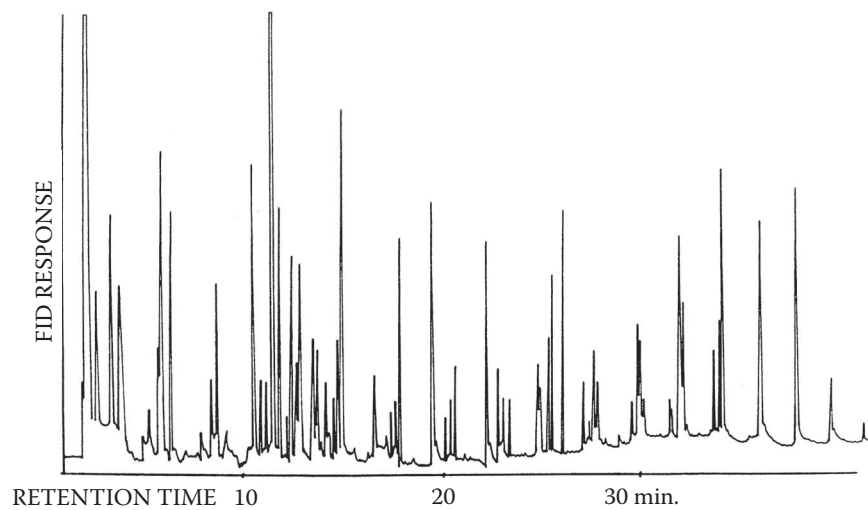
Pyrogram B-19: Oil shale

From rock sample heated at 60°C/min

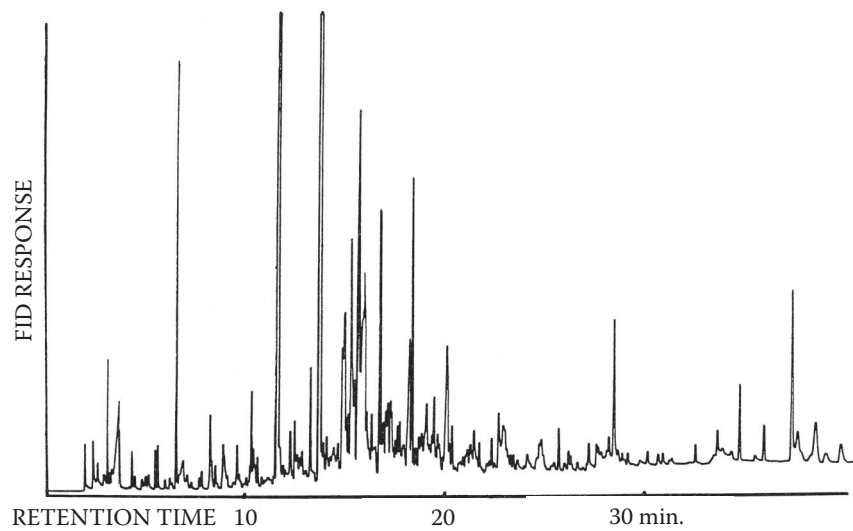


Pyrogram B-20: Oil shale

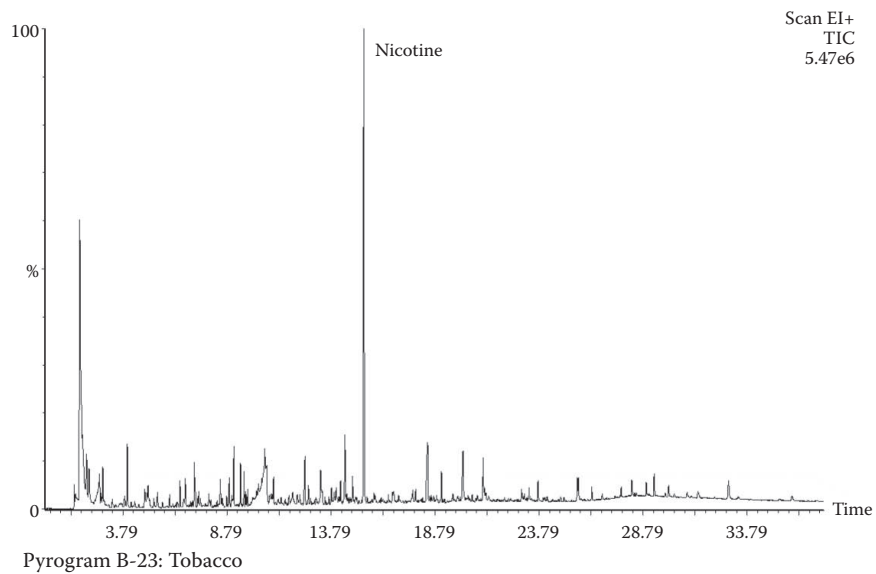
Total organic content = 1.2% pulse heated

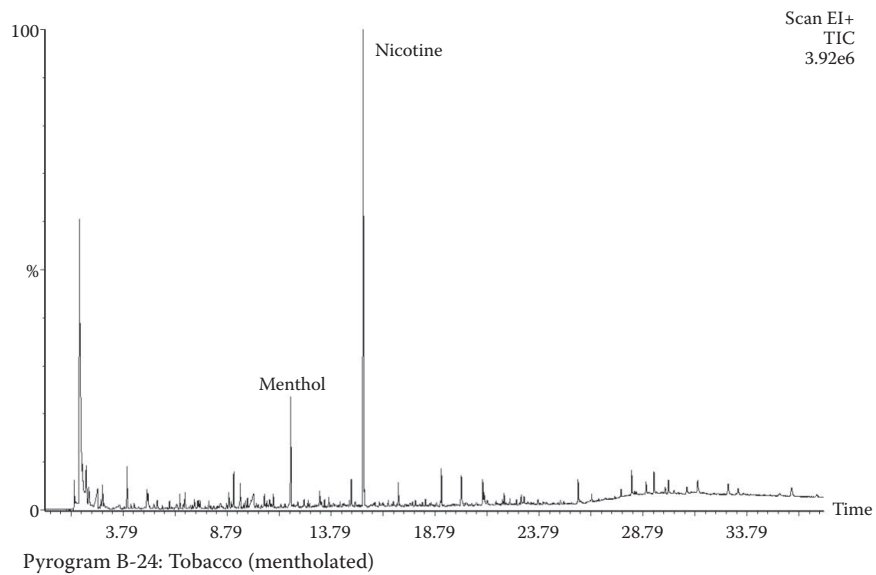


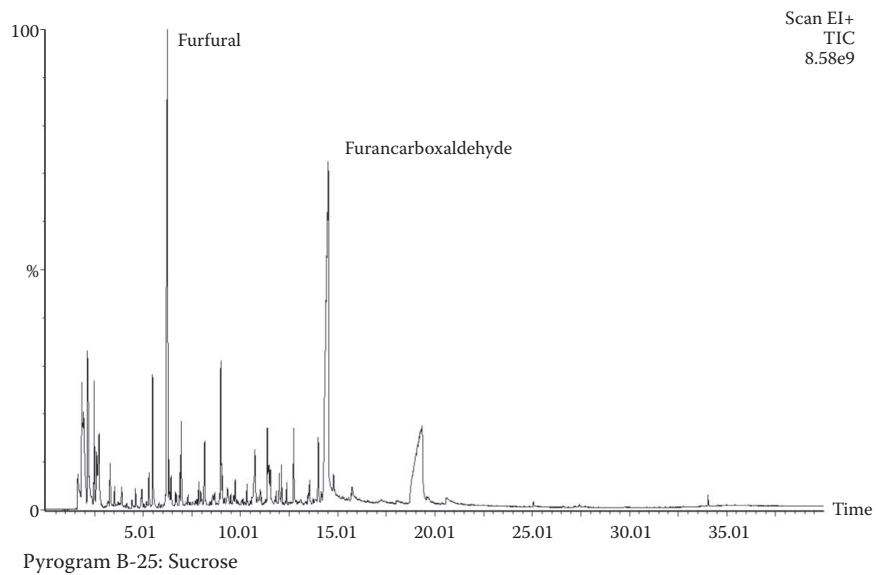
Pyrogram B-21: Beeswax

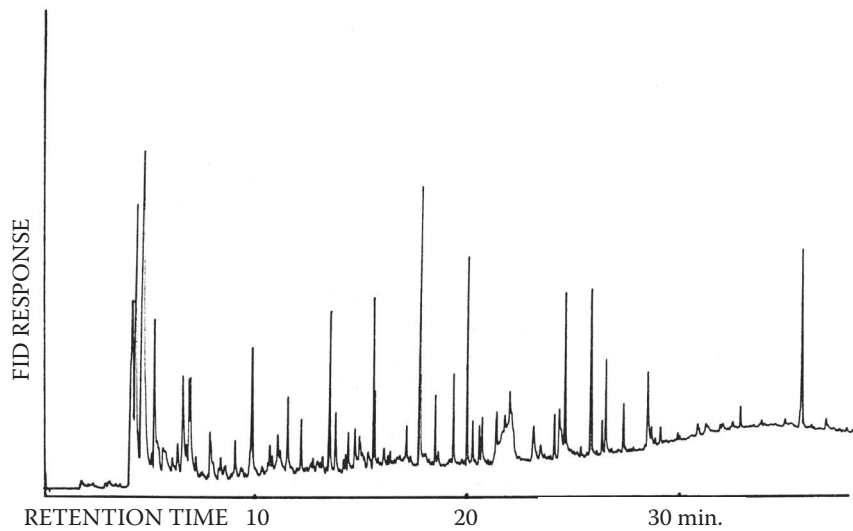


Pyrogram B-22: Silk

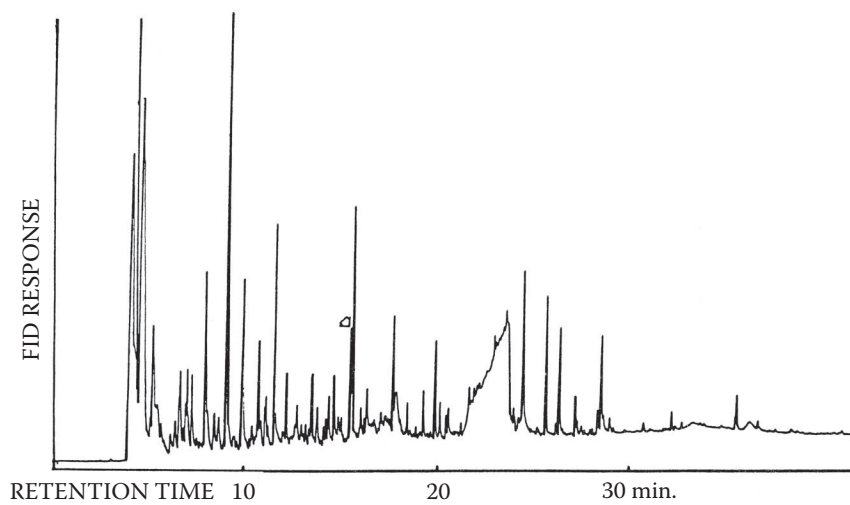




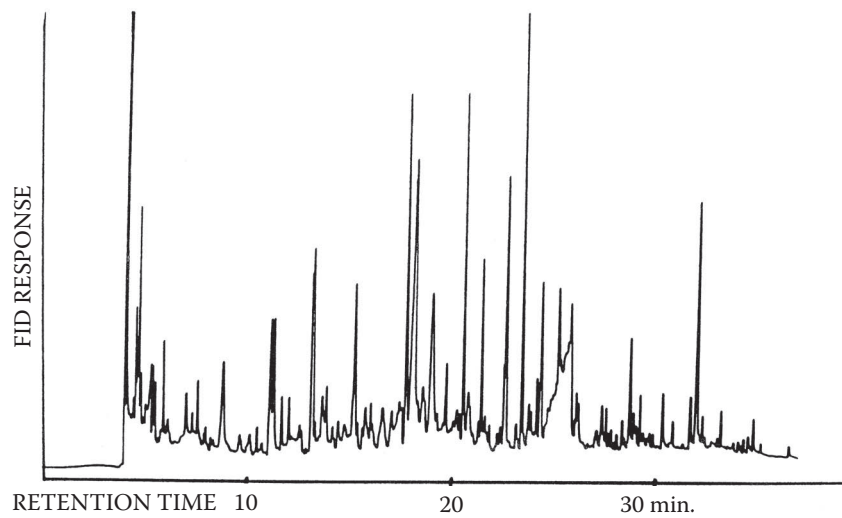




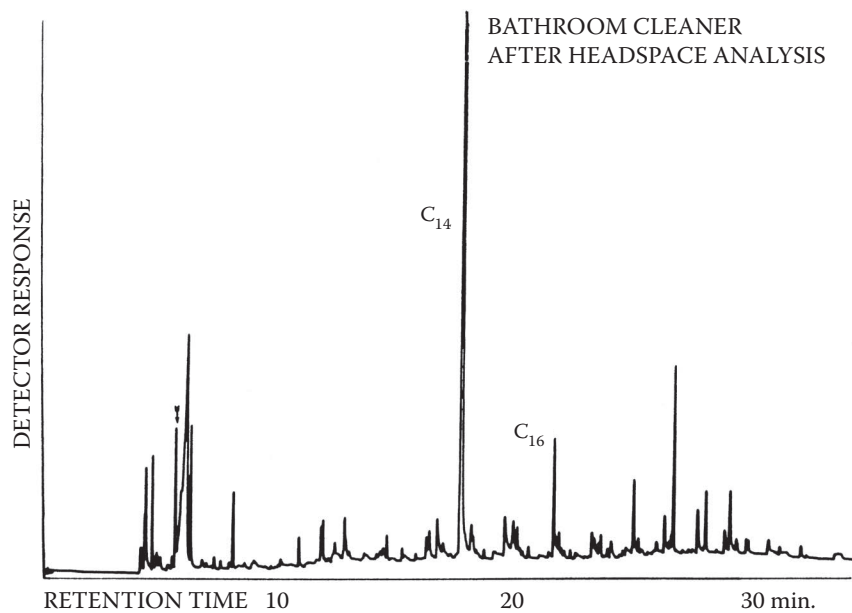
Pyrogram G-1: Unprinted newspaper



Pyrogram G-2: White magazine paper

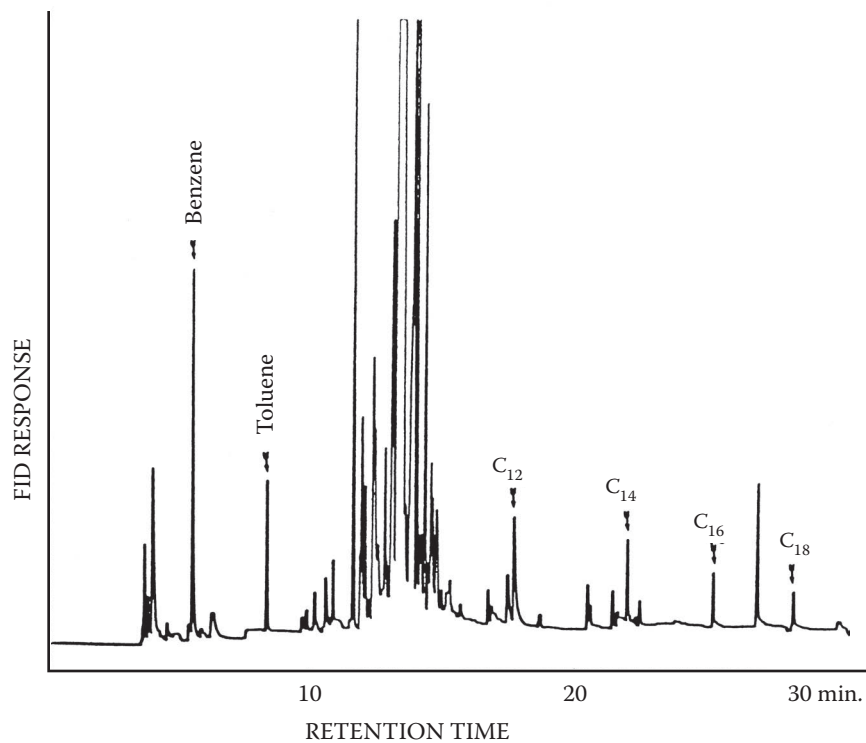


Pyrogram G-3: Paper



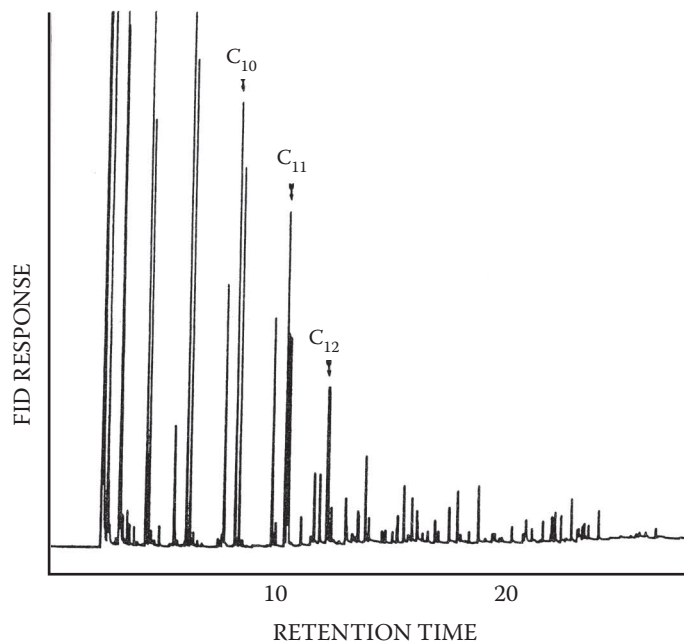
Pyrogram G-4: Bathroom cleaner product

Peak numbers: 1 = C_{19} , 2 = C_{16} hydrocarbons



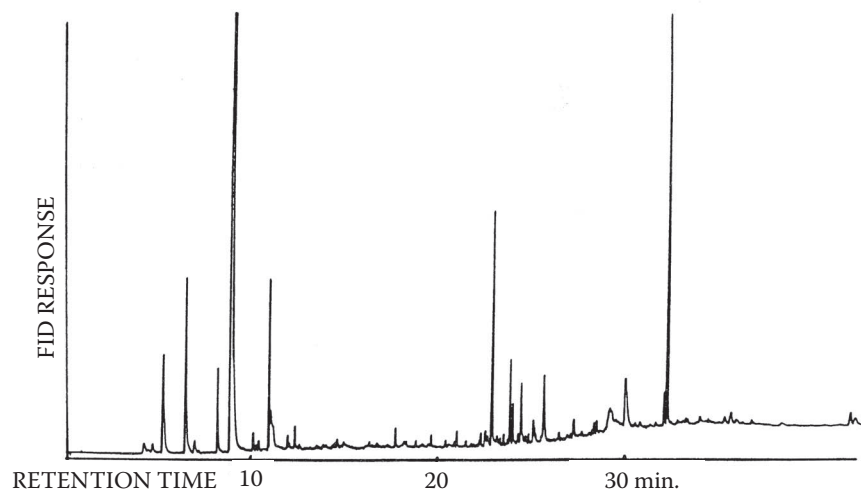
Pyrogram G-5: Disinfectant cleaner product

Peak numbers: 1 = benzene, 2 = toluene, 3 = C₁₂, 4 = C₁₄, 5 = C₁₆, 6 = C₁₈ hydrocarbons

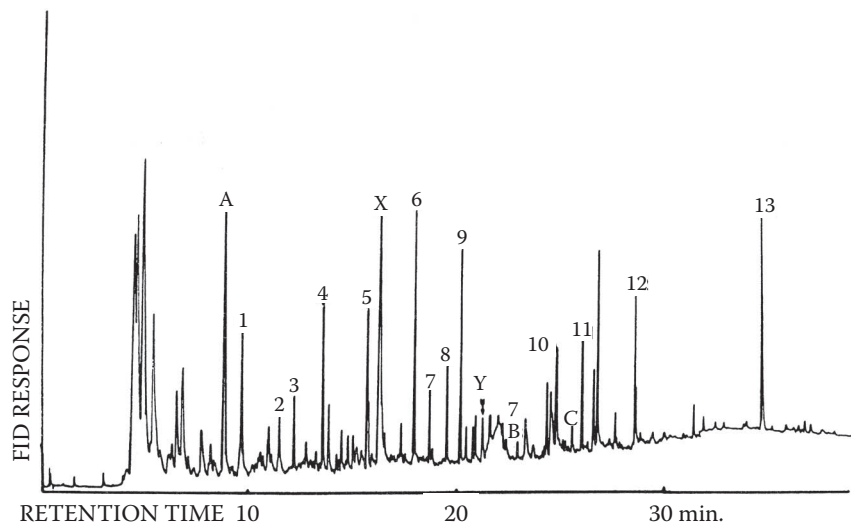


Pyrogram G-6: Dishwashing liquid

Peak numbers: 1 = C_{10} , 2 = C_{11} , 3 = C_{12} hydrocarbons



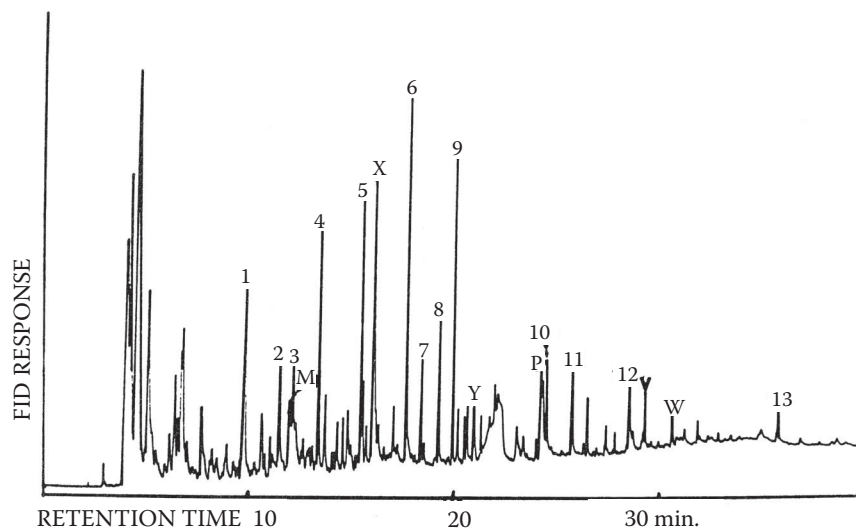
Pyrogram G-7: Ink, black, ballpoint pen



Pyrogram G-8: Ink, black, ballpoint pen

Pyrolyzed intact with paper on which it had been written

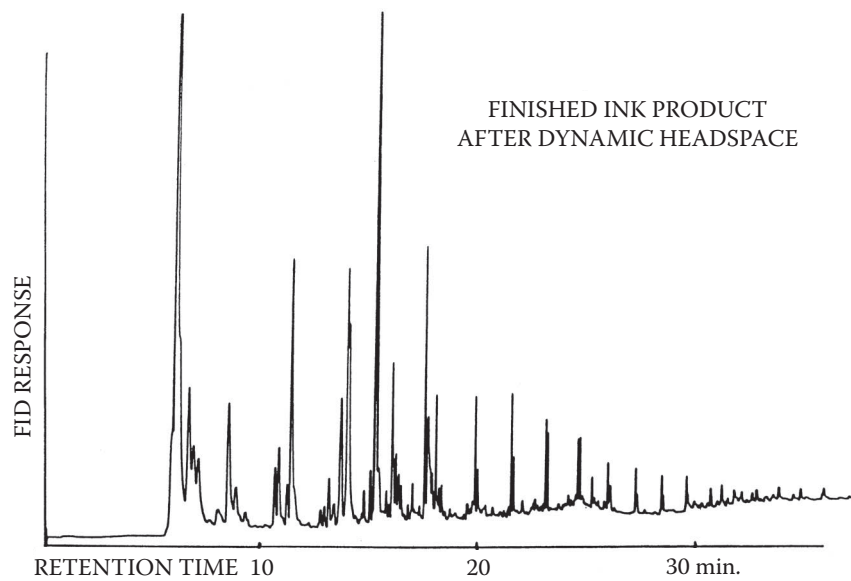
Numbered peaks are from the paper; lettered peaks from the ink



Pyrogram G-9: Ink, blue, ballpoint pen

Pyrolyzed intact with paper on which it had been written

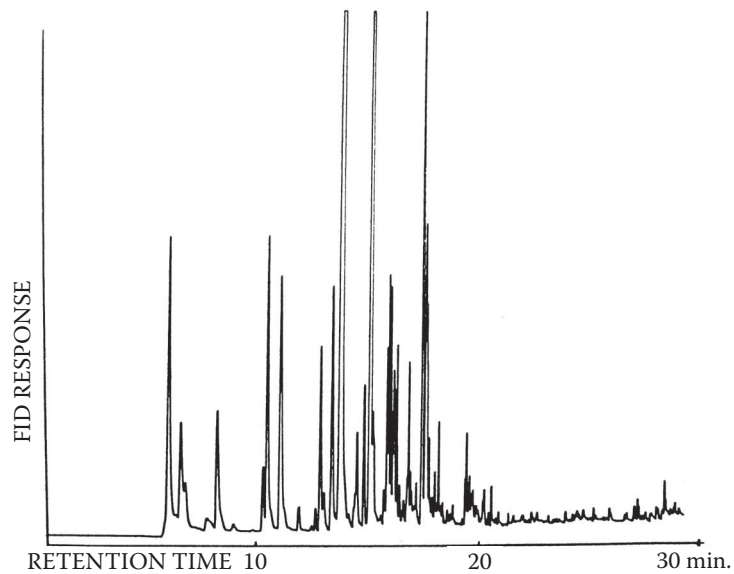
Numbered peaks are from the paper; lettered peaks from the ink



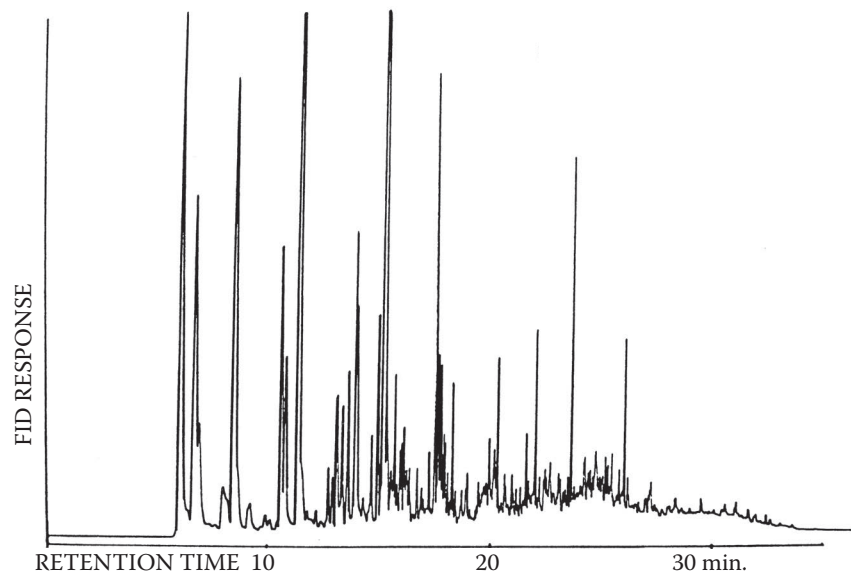
FINISHED INK PRODUCT
AFTER DYNAMIC HEADSPACE

Pyrogram G-10: Printing ink

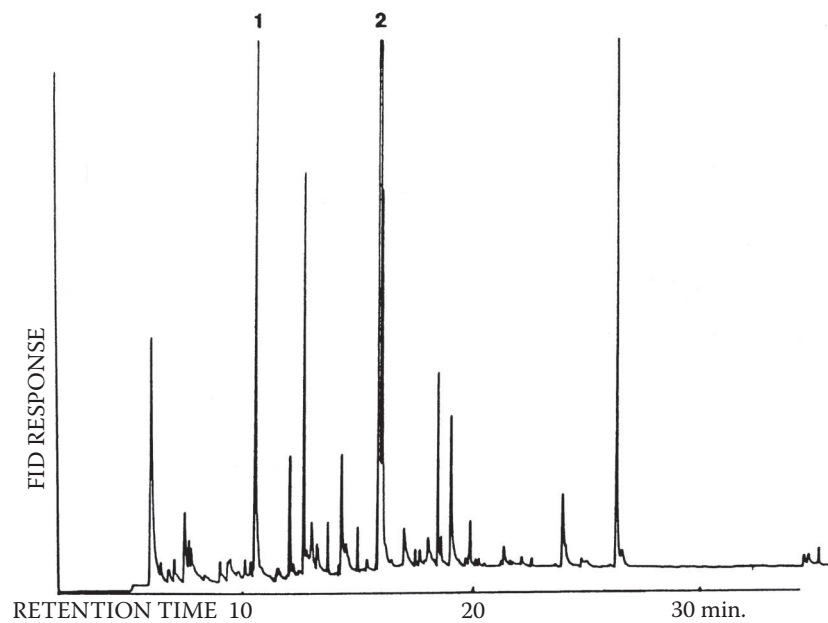
Formulation included linseed oil, wax, and petroleum resins



Pyrogram G-11: Petroleum resin A



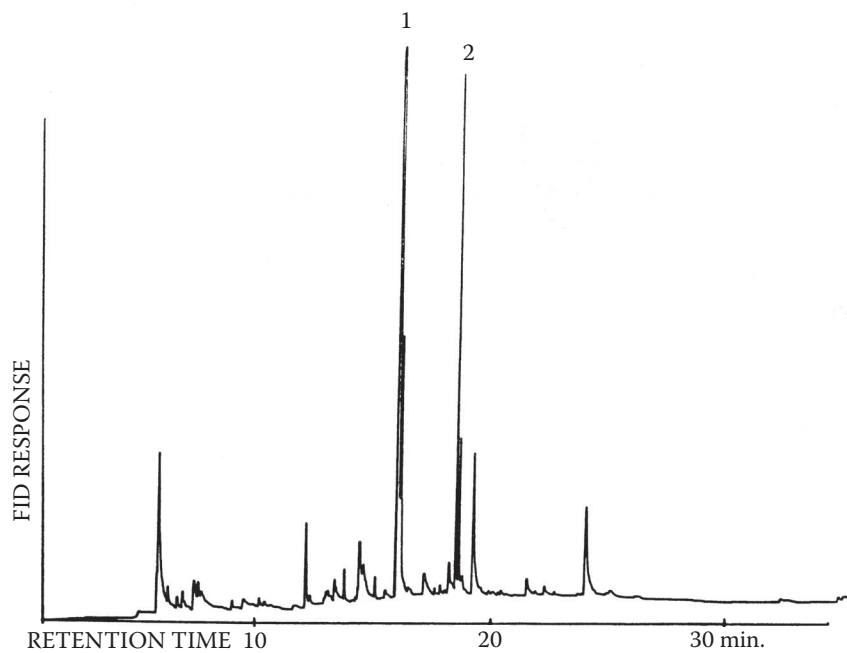
Pyrogram G-12: Petroleum resin



Pyrogram G-13: Kodak photocopy

Paper and toner material pyrolyzed together

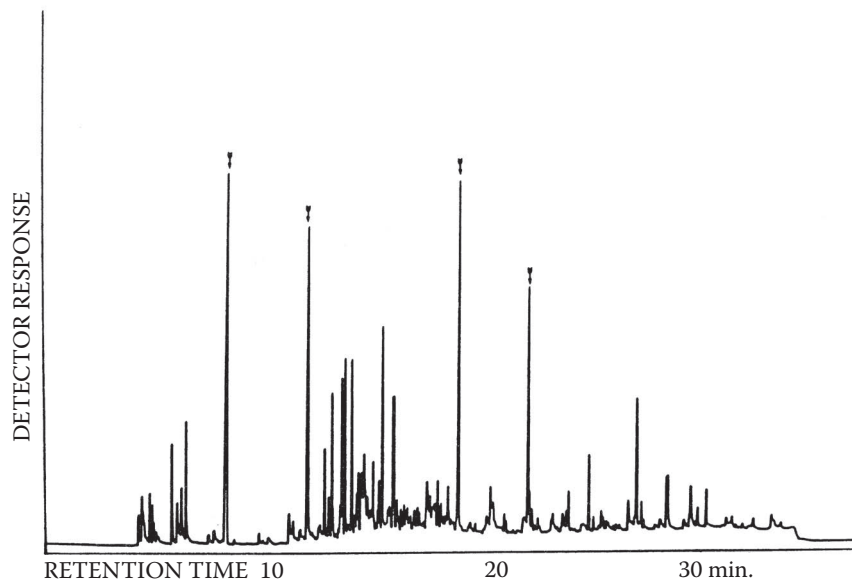
Peak numbers: 1 = methyl methacrylate, 2 = styrene



Pyrogram G-14: Xerox photocopy

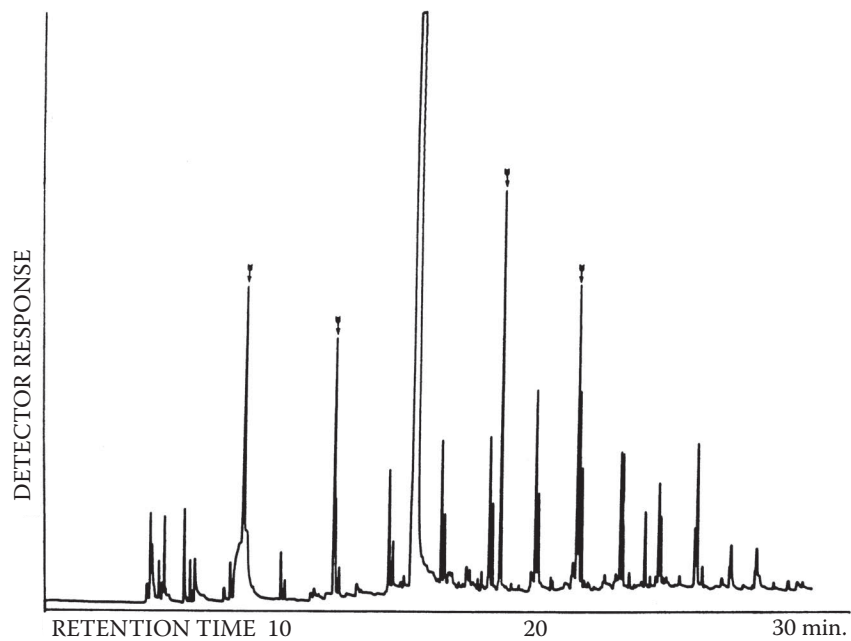
Paper and toner material pyrolyzed together

Peak numbers: 1 = styrene, 2 = butyl methacrylate



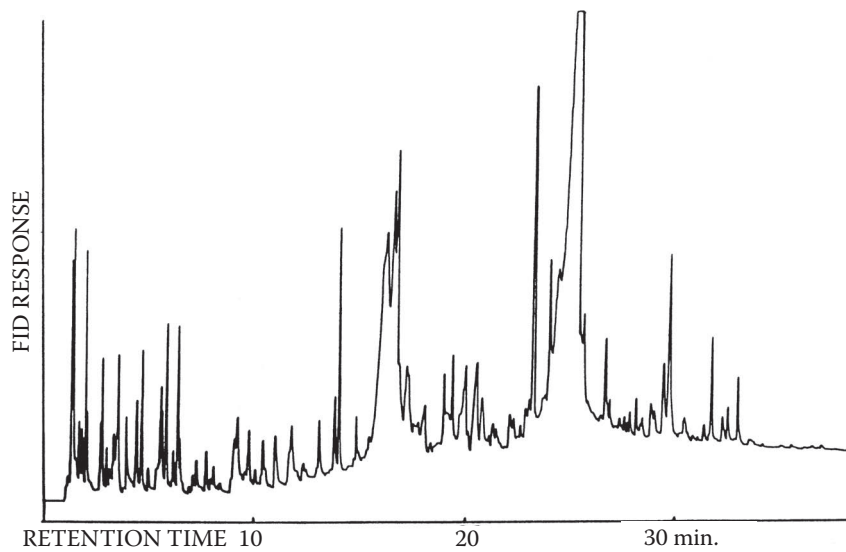
Pyrogram G-15: Mascara

Peaks indicated with arrows result from beeswax

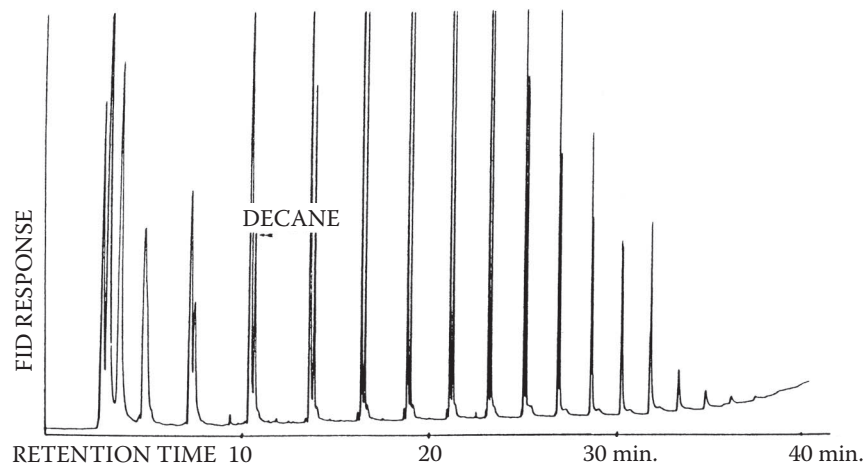


Pyrogram G-16: Mascara with acrylate

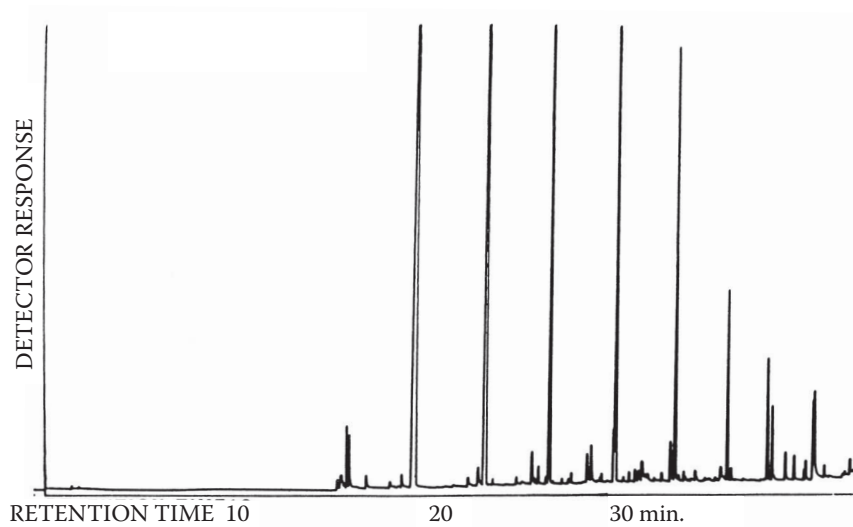
Peaks indicated with arrows result from beeswax



Pyrogram G-17: Shirt thread
50/50 cotton/polyester blend fabric



Pyrogram G-18: n-Tetracontane



Pyrogram G-19: Silicone grease

