Bibliography on Molecular or Short-Path Distillation

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THE application of molecular or short-path distillation to the separation and purification of many organic materials heretofore incapable of distillation or distillable only with extreme difficulty, amply testifies to the value of this relatively new technic in organic research. The extremely low pressures and short path of travel of the evolved vapors employed in this form of distillation permit the separation of many organic species at temperatures well below the point of thermal decomposition. Thus, it has been possible to adapt this process to the separation and purification of the long-chain hydrocarbons, alcohols, fatty acids, esters, and glycerides, which have heretofore been distillable only with difficulty, or in the cases of animal and vegetable fats, wholly undistillable. Other applications include the separation of polymerized and unpolymerized fractions of vegetable fats and oils; the purification of amino acids, sterols, and hormones; the production of vitamin concentrates and anhydrous enzyme preparations; and the separation of the organic salts of the rare earths.

The considerable and growing interest in the subject of molecular or short-path distillation has made it desirable to collect and publish a bibliography covering the scattered literature on the technic and application of this new research tool. Listed below are references to such articles and patents on molecular stills and their applications, as have come to hand. These references cover the period from the early work of Brönsted and Hevesy, in 1920, through September of the last year. In addition, a number of representative references have been selected from the extensive literature on high-vacuum pumps, low pressure gages, high-vacuum technic, etc., which should prove useful to a molecular still operator.

Where available, the Chemical Abstract (CA) reference has been included with each citation. Patents are indicated by an asterisk. In general, dates appearing with patents refer to dates of final approval.

(1) A cooperative organization participated in by the Bureaus of Chemistry and Soils and Plant Industry of the U. S. Department of Agriculture, and the Agricultural Experiment Stations of the North Central States of Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin.

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