This reaction proceeded smoothly and the product was a liquid rather than a solid like triphenyl methane. The liquid was oily, water-white, and sweet-smelling. In reflected light it exhibited a violet fluorescence. It distilled over in a range of 200–210° C under 125 mm of pressure. The fact that it was a liquid was attributed to the possibility that it might be not a pure compound but a mixture of isomers. Further studies are being made on this point.

p-Difluorobenzene in a similar Friedel and Crafts reaction should form a pure compound and not a mixture of isomers. With the fluorine atoms in the para position in the benzene ring any linkage with the central methane carbon is ortho to one of the fluorine atoms and meta to the other. Since no other linkage is theoretically possible, a pure crystalline compound should result.

Using the same mole concentration as in the previous preparation but substituting *p*-difluorobenzene in the place of monofluorobenzene, the reaction progressed smoothly and gave an over-all yield of 45% of tris(*p*-difluorophenyl)methane. The product obtained was a yellowish crystalline solid. After three recrystallizations from 20 to 30% alcohol, pure white crystals were obtained. The mp of the pure crystals was 98.0–98.5° C.

Analysis (by H. S. Clark, Urbana, Illinois) for $C_{19}H_{10}F_6$:

	Calculated	*Found*
C	64.78%	64.94%
H	2.86%	2.86%
F	32.36%	32.20% (by difference)

The experimental details for these compounds will be reported shortly.

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Measuring the Thickness of Very Thin Microtome Sections

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Several authors have recently described methods of sectioning biological material for electron microscopy. Some have used a high speed microtome (*3, 4*), others a microtome at ordinary speed with various modifications (*1, 2, 5, 7*). It seems desirable to have sections at least as thin as 0.1 μ, while standard methods result in sections only as thin as 2 μ, or at best 1 μ.

During the war the writer developed a method for cutting some materials consistently at 0.05 μ and even less. Examination of these sections with the electron microscope failed, in the writer's opinion, to show the desired detail in the chromosome material in which he was interested, and so the work was discontinued. The method consists essentially in the use of: a purified and very hard wax (carnauba) at a low temperature, a specially constructed microtome of the rocker type at ordinary speed, and a beryllium bronze blade. Beryllium bronze is not very hard (about Brinell 380) but its texture is very uniform and it is easy to secure an extremely even and sharp edge. While the method did not succeed in the purpose for which it was intended, it might prove helpful with other materials. The author hopes to publish a full description of it soon. During this work, a simple and accurate means was found for measuring the thickness of the sections. As this may be generally useful, it is described herein.

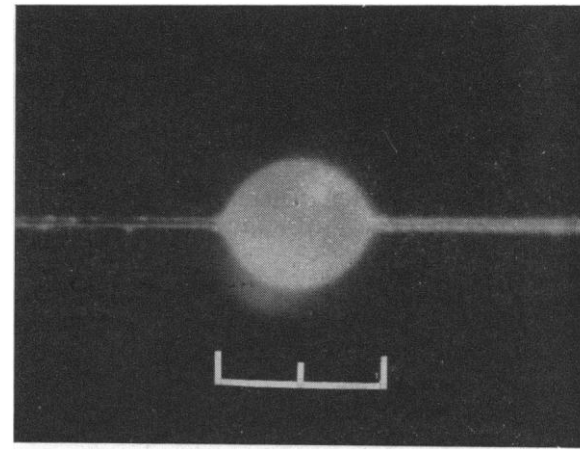

FIG. 1. A sphere of wax resulting from the melting of a section on a thin glass fiber. The length of the scale is 0.1 mm.

Several optical methods are available for measuring thin films (*6, 8*), but their use is difficult when the area of the section is only of the order of a square millimeter. A much simpler way is to measure under the microscope the area of the section, then to melt the section into a sphere from whose diameter the volume of wax can be calculated (Fig. 1). To obtain the sphere, the section is caught on a very thin (less than 10 μ) glass fiber, and the fiber is mounted in the field of a binocular. A small loop of electrically heated wire is carefully guided close to the section, which is slowly melted. If the glass fiber is thin enough, an almost perfect single sphere will result; for greater accuracy one may prefer to calculate its volume as an ellipsoid. It is important to watch the heating under fairly high magnification, and to heat slowly, as too high a temperature will cause evaporation.

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