An improved method of preparing DNA from various sources is described, making use of the detergent sodium dodecyl sulfate to deproteinize the protein component of DNA-protein complexes. The sodium dodecyl sulfate had been used earlier by Pirie to solubilize tobacco mosaic virus. In the preliminary experiments, Simmons and I found that the detergent could solubilize DNA from calf thymus chromatin. These experiments had embodied a double salt technique which was rather cumbersome. It was decided to attack the problem using the solubility characteristics of DNA-protein complexes in solutions of NaCl alone. The basic procedure was built on earlier work of Mirsky, who had used NaCl solutions to prepare chromosome threads and subsequently extract DNA from them. Using the isolated chromosomes as a starting material, I added detergent solutions and observed the changes in structure of the chromosome threads with the microscope. Experiments were then done using varying concentrations of detergent and suspensions of chromosome threads. These suspensions were centrifuged at high speed and the supernatants analysed for N and P to arrive at the proper detergent concentration for effective solubilization of the DNA. The repurification steps were followed using NaCl solutions and the required detergent concentration. The development of the procedure was a straightforward approach coupling microscopic observations and chemical analysis.

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