Table 1. Clotting time and clearing activity in rats following inorganic salts.

Drug	Dose (mg)	Route	Clotting time (min) Before prot.	Clotting time (min) After prot.*	Clearing activity (o.d. units) Before prot.	Clearing activity (o.d. units) After prot.*	
None			< 4		< 0.015		
Sodium phosphotungstate	20	i.v.	9	2	.11	0.02	
	20	i.v.	13	3	.09	.02	
	20	i.v.			.09	plasma pre-incubated for 2 hr in	0.15*M* NaCl
					.03		0.76*M* NaCl
					.01		1.37*M* NaCl
Sodium silicotungstate	200	oral	6		.07		
	200	oral	10		.07		

* Immediately after first bleeding, rat received 3 mg protamine and was bled again 3 min later.

inoid activity of a serum mucoprotein precipitated with phosphotungstic acid, as reported by Greenspan (*3*), is an artifact. Samples of phosphotungstate-precipitated mucoprotein prepared by us from bovine serum according to his method contained appreciable amounts of ash. Qualitative analysis indicated the presence of tungsten in these preparations.

The number of substances having heparin-like activity is thus extended to include inorganic compounds. These compounds resemble heparin and other heparinoids in having a relatively high molecular weight and negative charge but differ from them in the absence of carbohydrate and sulfur. Detailed data and additional studies will be reported elsewhere.

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References

1. C. B. Anfinsen, E. Boyle, and R. K. Brown, *Science* **115**, 583 (1952).
2. R. K. Brown, E. Boyle, and C. B. Anfinsen, *J. Biol. Chem.* **204**, 423 (1953).
3. E. M. Greenspan, *Science* **114**, 395 (1951).

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Rapid Separation of Diamond from Other Forms of Carbon

A rapid method for the separation of diamond from other materials, especially other forms of carbon, was desired. It was also desired that the method be quantitative—that is, no loss of diamond.

A number of preliminary experiments were made with various acids, salts, oxidants, and fluxes, but the most effective method found was preferential oxidation with catalyzed perchloric acid.

Approximately 0.1-g samples of the materials listed in the following paragraph were used. Samples were treated as follows: (i) fumed to dryness with red nitric acid; (ii) oxidized with 10 to 20 ml of 60-percent perchloric acid; catalyzed with approximately 0.1-g of ammonium metavanadate at 200°C (generally 30 min); (iii) diluted with water and the insoluble vanadium oxides reduced with an excess of hydroxylamine hydrochloride; (iv) washed, centrifuged, dried, and weighed any diamond residue.

The following materials were treated by the aforedescribed method: (i) carbon blacks—Thermax, Shaw, P33, Dag 154, Spheron 6, and Spheron 9; (ii) graphites—Dixon 200-09 and UCC grade SP2 spectrographic in the form of rods, chunks, and 60-mesh powder; (iii) diamond—0.1 g (approximately) maccles and 4000-mesh dust. Materials under (i) and (ii) were completely oxidized in approximately 30 min in most cases. However, some coarse graphites took several hours. Oxidation without catalyst took approximately 10 times longer. Diamond was not attacked in 5 to 6 hr as judged by weighing (± 0.1 mg) and optical examination.

Perchloric acid has been used by others to remove graphite from diamond (*1*). Catalysts have been used with perchloric acid as an oxidant for carbonaceous materials (*2*). Thus the method outlined is an application of these methods. It has been found to be the most convenient and effective method of those investigated.

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References

1. P. W. Bridgman, *J. Chem. Phys.* **15**, 96 (1947).
2. G. F. Smith and A. G. Deem, *Ind. Eng. Chem. Anal. Ed.* **4**, 227 (1932); G. F. Smith, *Anal. Chim. Acta* **5**, 397 (1953).

18 February 1954.

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