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Crystallographic Data on N,N,N',N'-Tetrakis(2-aminoethyl) ethylenediamine Pentahydrochloride = [Penten,5HCl], Hydroxy-Penten-Cobalt(III) Iodide and Hydroxy-Penten-Cobalt(III) Perchlorate

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Gauss, Moser and Schwarzenbach¹ prepared "penten", 5HCl in connection with investigations of metal complexes with polyamines. Crystallographic data on this compound (1) and on the cobalt(III) complexes [Co(OH)penten]I₂ (2) and [Co(OH)penten](ClO₄)₂ (3) were obtained from rotation and Weissenberg photographs recorded with CuK α radiation and from precession photographs recorded with

CuK α and MoK α radiation. The densities of the crystals were measured by the flotation method.

The crystals of all three compounds are monoclinic; from systematic absences (1) and (2) must have the space group $P2_1/c$ (No. 14, C_{2h}^5), although (3) has space group $P2$ (No. 3, C_2^1) or Pm (No. 6, C_s^1) the reflections $h0l$ with $l = 2n + 1$ and $0k0$ with $k = 2n + 1$ are very weak and so (2) and (3) are nearly isomorphous.

Detailed studies of these three compounds are in progress.

The crystals were kindly supplied by professor G. Schwarzenbach, Zürich.

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A Conversion of D-Glucose to D-Mannose under Acidic Conditions

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In an attempt to prepare D-mannofuranose pentaacetate, 2,3:5,6-di-O-isopropylidene-D-mannose was treated with a mixture of acetic acid, acetic anhydride and sulphuric acid at room temperature. When the deacetylated product was investigated by paper chromatography, however, it gave two spots, which corresponded to D-glucose and D-mannose. By fractionation of the mixture these two sugars were

Table 1.

	(1)	(2)	(3)
Formula	C ₁₀ H ₃₃ N ₆ Cl ₅	CoC ₁₀ H ₂₉ N ₆ OI ₂	CoC ₁₀ H ₂₉ N ₆ O ₉ Cl ₂
Formula wt.	414.7	562.2	507.2
D_m (g·ml ⁻¹)	1.34	2.07	1.71
D_x (g·ml ⁻¹)	1.35	2.07	1.71
Space group	$P2_1/c$	$P2_1/c$	
Z (calc.)	4	4	4
a (Å)	10.19	10.52	10.57
b (Å)	23.18	15.31	15.99
c (Å)	9.96	11.31	11.76
β (°)	120.0	98.4	98.4
V (Å ³)	2037	1802	1966