

to the presence of gelatinous silica not completely dehydrated by the heat used in drying the graphite (Drown being strictly followed in dissolving the drillings as in phosphorus determinations), but probably to the fact that graphite thus obtained is not always pure carbon, but contains sometimes other combustible matter—combinations of hydrogen, oxygen, nitrogen, and sulphur in some form. For smaller percentages the method may serve. By combustion as usual, we obtain 3.21 per cent., 3.24 per cent.; by loss upon ignition, 3.35 per cent., 3.36 per cent., 3.38 per cent., 3.20 per cent.

That gelatinous silica, if present, is not dehydrated by the drying of the graphite, was found by Tamm. An experiment by the writer showed 0.0094 gram water retained by about 0.13 gram gelatinous silica after being dried as graphite is dried.

GEORGE AUCHY.

The Persulphates of Rubidium, Cesium, and Thallium.—In the October part of this Journal,¹ there is a short paper by Foster and Smith on the above subject. As I have recently prepared and partially investigated these salts, I consider it advisable to publish the present note, retaining details for a paper to be published later.

The rubidium and cesium salts were prepared from ammonium persulphate by double decomposition, purified, and recrystallized. The crystals are not isomorphous with those of the potassium salt (triclinic), but with those of the ammonium salt (monoclinic). As mixtures of the potassium salt with the others have been obtained in well-formed monoclinic crystals, notwithstanding a great preponderance of potassium salt, it is evident that we have here to deal with an isodimorphous group.

The thalious salt has not yet been obtained pure, but mixtures of it with ammonium persulphate have been obtained in crystals isomorphous with the above monoclinic group. As the electrolysis of thalious sulphate solution would present interesting peculiarities, owing to the existence of thallic compounds, it was decided to investigate that subject also. It was found necessary to delay this, however, to permit of a preliminary investigation of thallic sulphate and its double salts, which is at present being carried out. Thalious persulphate, $Tl'_2S_2O_8$, is isomeric with thalious thallic sulphate, $Tl'Tl'''(SO_4)_2$, or $Tl_2SO_4.Tl_2(SO_4)_2$.

UNIVERSITY OF EDINBURGH,
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HUGH MARSHALL.

¹ This Journal, 21, 934 (1899).