A New Carbon Oxide
Synthesis of Tetrahydroxybenzoquinone Bisoxalate†

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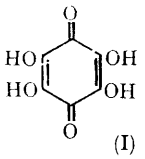
SYNTHESIS of the carbon oxide hexahydroxybenzene trisoxalate (III) has recently been reported, bringing the number of known carbon oxides to five.‡ We now report the synthesis of another of these novel compounds.

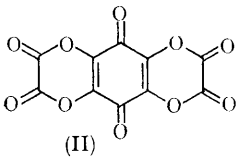
Treatment of tetrahydroxybenzoquinone (I) with

† This work was presented, in part, at the 154th national meeting of the American Chemical Society.
‡ Carbon monoxide, carbon dioxide, carbon suboxide, mellitic trianhydride, hexahydroxybenzene trisoxalate.

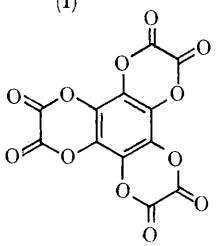
oxalyl chloride in tetrahydrofuran produced this oxide, tetrahydroxyquinone bisoxalate (II), as a



(I)



(II)



(III)

tetrahydrofuran solvate. The yellow oxide (the first coloured carbon oxide which has been reported) was crystallized from tetrahydrofuran, and dried in a stream of nitrogen to yield a solvate which contained 2·2 parts of tetrahydrofuran. It was thermally unstable and hygroscopic. Attempts to remove the tetrahydrofuran by heating resulted in decomposition. Besides the bands due to tetrahydrofuran, the i.r. spectrum showed absorptions at 5·50, 5·91, and 6·01 μ and no hydroxy-absorptions. Hydrolysis followed by a reductive work-up furnished hexahydroxybenzene and oxalic acid.

We thank the Petroleum Research Foundation for financial support.

(*Received, April 18th*, 1968; *Com.* 480.)

[1] H. S. Verter and R. Dominic, *Tetrahedron*, 1967, **23**, 3863.