

W0397

**Crystal Structure of  $\text{Ba}_4\text{Fe}_2\text{I}_5\text{S}_4$ .** Danielle L. Gray, James A. Ibers, Dept. of Chemistry, Northwestern Univ., Evanston, IL 60208, USA.

The new quaternary metal sulfide,  $\text{Ba}_4\text{Fe}_2\text{I}_5\text{S}_4$ , was synthesized serendipitously at 1173 K by the reaction of FeS, BaS, S, and U with  $\text{BaI}_2$  as a flux. The compound crystallizes with two formula units in space group  $I4/m$  in the tetragonal system in a cell of dimensions  $a = 13.7583(13) \text{ \AA}$ ,  $c = 5.1261(7) \text{ \AA}$ . The structure contains what we believe is the first example of infinite chains of edge-sharing  $\text{FeS}_4$  tetrahedra.

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