The Serial Solubility of Some Rare Earth Bromates.—Bromates of dysprosium with holmium, containing some yttrium, erbium and terbium, were crystallized with bromates of lanthanum, praseodymium and neodymium, and fractionated for about three months. Such fractions as had the same appearance were united. Each fraction was then separated into the elements of the yttrium group and into those of the cerium group by the sodium sulfate method. In the least soluble fraction the separation was carried out by crystallizing the double magnesium nitrates together with bismuth magnesium nitrate. The absorption spectra of the fractions, 26 in all, were examined; the elements were arranged in the following order: (most soluble) erbium, lanthanum, yttrium, holmium, praseodymium, dysprosium, neodymium, terbium, (gadolinium), (least sol.). In crystallizing the bromates, the fractions were cooled to room temperature (20–25°); it is probable that by allowing them to crystallize at a lower temperature, the elements might show another order. Especially neodymium, which was found only slightly more soluble than terbium, might then come between terbium and gadolinium.

These results are confirmed by direct determinations of solubilities carried out in this Laboratory; this work will be published in the near future.

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A NEW COLOR REACTION FOR PROCAINE AND SOME OTHER LOCAL ANESTHETICS, AND ITS APPLICATION TO THE DETERMINATION OF PROCAINE

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Introduction

When to a solution containing approximately 1 mg. of procaine hydrochloride per cubic centimeter, a few drops of hydrochloric acid, of a solution of sodium nitrite, and of concd. aqueous ammonia are added, in the order named, an intense yellow color develops. Several other local anesthetics respond to this test, while others do not, as recorded in Part I of this paper, which part also includes the results of the test on a number of additional substances.

On suitable dilution, the yellow solution obtained with procaine may be made the basis of a colorimetric method for its determination. The procedure and necessary cautions are detailed in Part II.