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KINETIC-CATALYTIC MICRO-ASSAY OF FE(III), ON HUMAN SERUM
AND PHARMACEUTICAL SAMPLES, BASED ON THE PERBROMATE -
DIPHENYLAMINE REACTION, IN A MIXED ACID MEDIUM.

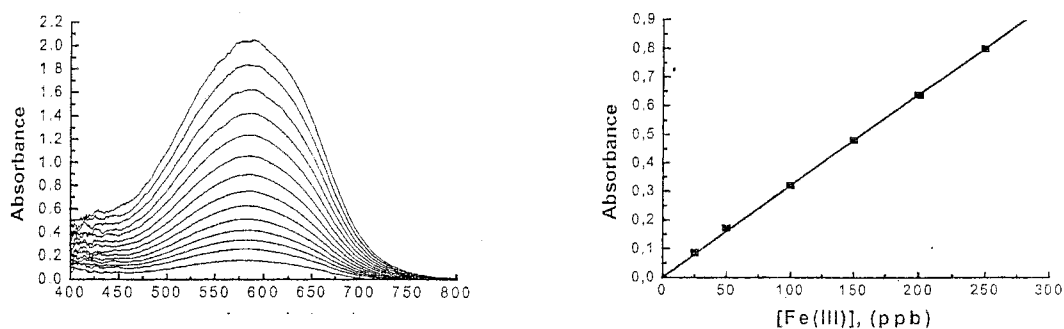
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Perbromic acid (HBrO_4) is a strong monobasic acid and very strong oxidant at 100 °C, but almost inactive at room temperature. Thermodynamic and kinetic limitations make synthesis of perbromates^[1] almost inevitable, under usual conditions. Due to their lack, a few papers have been reported so far among the scientific community, concerning the development of spectrophotometric^[2], kinetic^[3] and potentiometric methods^[4]. The water insoluble Diphenylamine (DPA), becomes soluble in concentrated mineral and strong organic acids. Here in we describe the development of a novel kinetic spectrophotometric determination of Fe(III), based on its catalytic effect on the reaction of perbromates with diphenylamine in a mixed acid



medium.

FIGURE: LEFT: The visible spectrum progress of the blue product, every 30 sec. DPA: 50 μl (0.5% stock solution), KBrO_4 : 10 μl (0.1 M stock solution), Fe(III): 250 ppb, Final volume: 2 ml mixed acid. RIGHT: Calibration curve for the determination of Fe(III), according to the proposed method, in the concentration range 25-250 ppb.