In the last twenty years the ionizing effects on matter of 60Co γ-rays have been widely discussed. However, regarding organic compounds, mainly aromatic ones, results are scarce, particularly those obtained in alcoholic solution. γ-Radiation is used mainly in industry and medicine, particularly for sterilization of surgical materials. In this work we studied the chemical and radiolytic stability of products by radiation from quinoline in isopropanol solution. Doses were from $2 \times 10^4$ to $3 \times 10^3$ Gy and the samples concentration was 1:1 by volume. We have observed significant effects for high radiation doses. Lower doses effected the solvent with the production of long polymeric hydrocarbons. Products formed were characterized by capillary gas chromatography coupled to a mass-selective detector (GC/MSD). We have used a fused silica capillary column 25 m long, 0.2 mm in internal diameter, covered by a 0.33 μm thick film of crosslinked 5% phenyl methyl silicone.
INTRODUCTION

2-Propanol is usually utilized as a solvent in many radiation manipulations. Several studies have been made to characterize species formed during its radiolysis\textsuperscript{1-3}. The main radicals formed during $\gamma$-irradiation of 2-propanol were identified by ESR\textsuperscript{4}. In the present work, attempts are made to describe the $\gamma$-radiolysis of 2-propanol in the presence of quinoline.

Quinoline (/1-azanaphthalene or benzo [b] pyridine/) is one of the three possible azanaphthalenes; the other two are isoquinoline (/2-azanaphthalene or benzo [c] pyridine/) and the quinolizinium cation (/4a-azanaphthalene or benzo [a] pyridine/). The natural and synthetic compounds of quinoline have very interesting properties. Derivatives of 8-hydroxyquinoline have bactericidal and fungicidal properties and the halogenated compounds (/e.g. 5-chloro-7-indo-8-hydroxyquinoline/) are amoebicides\textsuperscript{5}. The cyanines are an important group of dyes used for improving the colour sensitivity of photographic emulsions\textsuperscript{6}. There were two reasons for choosing these compounds; firstly they are adapted to the fundamental study of the kinetics and mechanism of their radiolysis and secondly, from a practical point of view, the quinoline and their derivatives are important intermediates for the production of very important polymers for industry.

EXPERIMENTAL

2-Propanol supplied by Merck and quinoline supplied by Riedel-de Haën AG were tri-distilled before utilization. The solution was prepared as 1:1 by volume. 2.0 ml of this solution was pipetted into ampoules and the gases were stripped off in a high vacuum line by the conven-