

XXXV.—*On the Products of the Action of Nitric Acid on the Resinous Extract of Indian Hemp.*

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FOUR ounces of the commercial resinous extract of Indian hemp (*Cannabis indica*) were treated with 30 oz. of nitric acid, sp. gr. 1.32; a violent action accompanied by a copious evolution of nitrous fumes took place. When the action had in a great measure subsided, the flask was heated for five hours in a water-bath; it was then taken out and allowed to cool; when cold, the acid liquor was decanted from a resinous substance, and evaporated to dryness on the water-bath. The resinous substance which remained in the flask was treated with 20 oz. of nitric acid, sp. gr. 1.42, and boiled for eight hours in a long-necked flask. After having stood all night, the clear acid liquor was poured into the basin containing the residue from the first

evaporation; it was then evaporated to dryness on the water-bath. A resinous portion remaining in the flask was again treated with nitric acid, and so on until the whole of the resinous substance was dissolved.

The substance obtained by the evaporation of the acid liquors was dissolved in warm nitric acid, sp. gr. 1·42, evaporated a little, and allowed to cool. The substance which was deposited was washed with cold water, and dissolved in hot methylated spirit, from which it crystallised in long flat prisms. It was purified by two recrystallisations from spirit.

The substance thus obtained does not appear to be an acid, as it is not apparently changed by being boiled with moderately strong potash, soda, or ammonia, and its alcoholic solution is neutral to test-paper. It does not contain nitrogen. When pure it is white, with a slight tinge of yellow. When heated on platinum foil it melts and burns, leaving a slight carbonaceous residue, which disappears on the further application of heat. Heated in a tube, it melts at 175—176° C., and on the further application of heat it sublimes without leaving a residue, while a sublimate, consisting of long asbestos-like needles, condenses on the upper part of the tube. It is insoluble in water and tasteless, slightly soluble in alcohol, from which it crystallises in long flat prisms. In hot nitric acid it dissolves, and on evaporation separates unchanged. It is soluble in oil of vitriol, the solution becoming blackened on the application of heat. It is soluble in benzol and chloroform, insoluble in bisulphide of carbon and ether. This substance, which we propose at present to call oxy-cannabin, is probably formed by the oxidation of some principle contained in the extract. It gave on combustion numbers agreeing with the formula $C_5H_6O_2$.

I. ·2329 grm. gave ·5210 grm. CO_2 and ·1324 grm. H_2O .

II. ·3850 grm. gave ·8610 grm. CO_2 , and ·2148 grm. H_2O .

		Theory.	I.	II.	Mean.
C_5	= 60	61·23	61·01	60·99	61·00
H_6	= 6	6·12	6·31	6·20	6·25
O_2	= 32	32·65			
	—	—			
	98	100·00			

The acid liquors which have deposited oxy-cannabin yield,

on further evaporation, a small quantity of an acid substance which crystallises in plates, but which we did not obtain in a state of purity.
