

Title : Science unit 12

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CU S100/12. 1972

Tape No. 6LT/70132

Project No. 00520/1112

Date Recorded 18.4.72.

Form VTR

Producer: Nat Taylor

1st TX.:

Seq.	Time	Footage	Sequence List	Sound Cue
1	1'37"		Pentz introduces the unit. It will be concerned with the determination of rate reaction and equilibrium constants. He discusses the importance of knowing the speed of a chemical reaction and the mechanisms of a reaction.	two mechanisms predominates.
2	4'00"		Ross discusses the two mechanisms of a reaction. $A+BC \rightarrow AB+C$ 1st mechanism $BC \rightarrow B + C, B + A \rightarrow AB$ 2nd mechanism $A + BC \rightarrow A...B...C \rightarrow AB + C$	Well, which ever mechanism -----
3	5'26"		Reaction of $Mg + HCl$ monitored by Ross. The volume of liberated hydrogen is measured.	Well so much for----- electrode this way
	8'45"		Pentz and Ross monitor the reaction of an alkyl halide (t- butylbromide) with water. Both are added to a solvent. Ross gives the equation of the reaction likely to occur. He then adds silver nitrate. The bromide ions being formed in the alkyl halide/water reaction are catalysed by the silver nitrate to form a precipitate of silver bromide.	
	10'47"		Ross also measures the concentration of hydrogen ions from this reaction with a glass electrode. A continuous reading is given on paper with a pen recorder.	
	11'37"		Pentz with model of molecules. He poses the question of how a simple reaction between molecules can be monitored. A process sensitive to the number of molecules in a reaction is needed.	
	16'48"		Ross uses an Ebulliometer to monitor, the boiling point of a solution undergoing a reaction. The boiling point changes as the reaction proceeds. Reaction time and temperatures are recorded on a graph	541.3415 541.3415028

Seq.	Time	Footage	Sequence List	Sound Cue
4	18'20"		Ross uses a <u>polarimeter</u> to monitor the concentration of a solution and there by the reaction.	541.3414
	24'22"		Reaction between ferric ions and thiocyanate ions is monitored using a <u>Stop-Flow apparatus</u> . Ross explains the stop-flow apparatus with the aid of a diagram. The apparatus is hooked to an oscilloscope and the reaction is traced on the oscilloscope screen which monitors the time and intensity of the reaction.	you need of course
5	24'36"		Credits	