Video « Titration of base salts by potentiometry »

Time	Text
00 :09	Today, I am going to present you the pharmacopeia titration of an organic base hydrochloride, which is a potentiometric titration, by titrated sodium hydroxide (soda) in alcoholic media. I will perform this titration on lidocaine hydrochloride.
00 :20	A test sample of near 70 mg of lidocaine hydrochloride has been taken in order to get a theoretical endpoint volume around 5 ml of soda. I also add a stirred bar in the beaker.
00 :42	First, I am solubilising the sample with around 50 ml of ethanol. The ethanol is a reactant, therefore the quantity has been determined in order to ensure a good homogenization of the media and a good immersion of the bulb of the electrode.
01 :03	Before starting the potentiometric titration, I am recording the potential at the beginning, at time 0, which is 240 mV.
01 :18	The reactant has to be added regularly and the potential has to be recorded also regularly.
01 :31	0.25 ml: 214; 0.5 ml: 187; 2.75: 75; 3 ml: 65. So, after 3 ml, I will try to slow down the adding with smaller intervals in order to well straddle the potential fall at the equivalent volume.
02 :21	3,2: 56; 3,4: 50; 4,4: 7; 4,5: -1,6; 4,6: -8; 6: -325;
03 :10	Now, I can take again bigger intervals since the potential fall is smaller. 6,25: -333; 6,5: -338; 7: -345
03 :33	As you can see, I am getting to another plateau. Let's make 2 more addings: 7,5: -348; 8: -351
03 :50	I will continue up to9 ml in order to get a nice plateau: -356
03 :58	Now, I need to draw the potential curve depending on the volume of soda in order to get the equivalence point.
04 :09	I am going to enter my experimental data in a software which enables to draw the titration curve and to directly calculate the equivalence point.
04 :22	The first column represents the volume in ml, the second column is the measured potential in mV.
04 :28	Now, if I am looking at the graph mode. The titration curve, which is the potential depending on the added soda volume, appears.
04 :40	If I click on the inflexion point, the software presents the tangents and, between them, I get the inflexion point of the curve. So, in that case, I have added 5.275 ml of soda to titrate 70.7 mg exactly weighed of lidocaine hydrochloride.