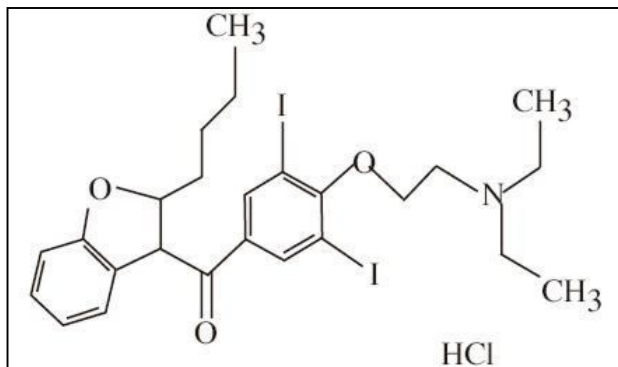


Amiodarone HCl
200 mg Tablet

Structure:



Molecular Formula and Mass: $C_{25}H_{29}I_2NO_3 \cdot HCl - 681.77$

Category: Anti-arrhythmic heart medication

Sample:

Grind one tablet and dissolve in 100 mL ethanol. Shake at least 10 min and filter. Concentration = $200 \text{ mg}/100 \text{ mL} = 2.00 \text{ mg/mL}$. Further dilute 1.00 mL with 9.00 mL of ethanol for a total volume of 10.0 mL and a final theoretical concentration of 0.200 mg/mL, which is the required sample solution concentration representing 100%.

Standards:

High Standard:

The high limit is 115%; therefore the concentration of the high standard = $(0.200 \text{ mg/mL} \times 1.15) = 0.230 \text{ mg/mL}$. Weigh approximately 11.5 mg of standard. If you weighed 11.6 mg of standard, dissolve it in: $(11.6 \text{ mg}) / (0.230 \text{ mg/mL}) = 50.4 \text{ mL}$ of ethanol. This makes the high standard solution concentration equal to 0.230 mg/mL.

Low Standard:

The low limit is 85%; therefore the concentration of the low standard = $(0.200 \text{ mg/mL} \times 0.85) = 0.170 \text{ mg/mL}$. Dilute 1.00 mL of high standard to 1.35 mL by adding 0.35 mL of methanol ($1.15/0.85 = 1.35$).

Spotting:

Spot on the 5 X 10 cm silica gel TLC aluminium plate with 3.00 μL aliquots as follows:

Left spot	low standard (85%) = 0.510 μg
Center Spot	100% sample = 0.600 μg
Right Spot	high standard (115%) = 0.690 μg

Development:

Mix 34.0 mL of ethyl acetate, 6.00 mL of methanol and 6.00 mL of concentrated ammonia. Develop the plate in a small glass chamber with approximately 20.0 mL of this solution until the solvent front reaches within 1 cm of the top of the TLC plate.

($R_f = 0.80$)

Detection:

UV:

Dry the plate and observe under ultraviolet light at 254 nm. Observe the intensities and the sizes of the spots.

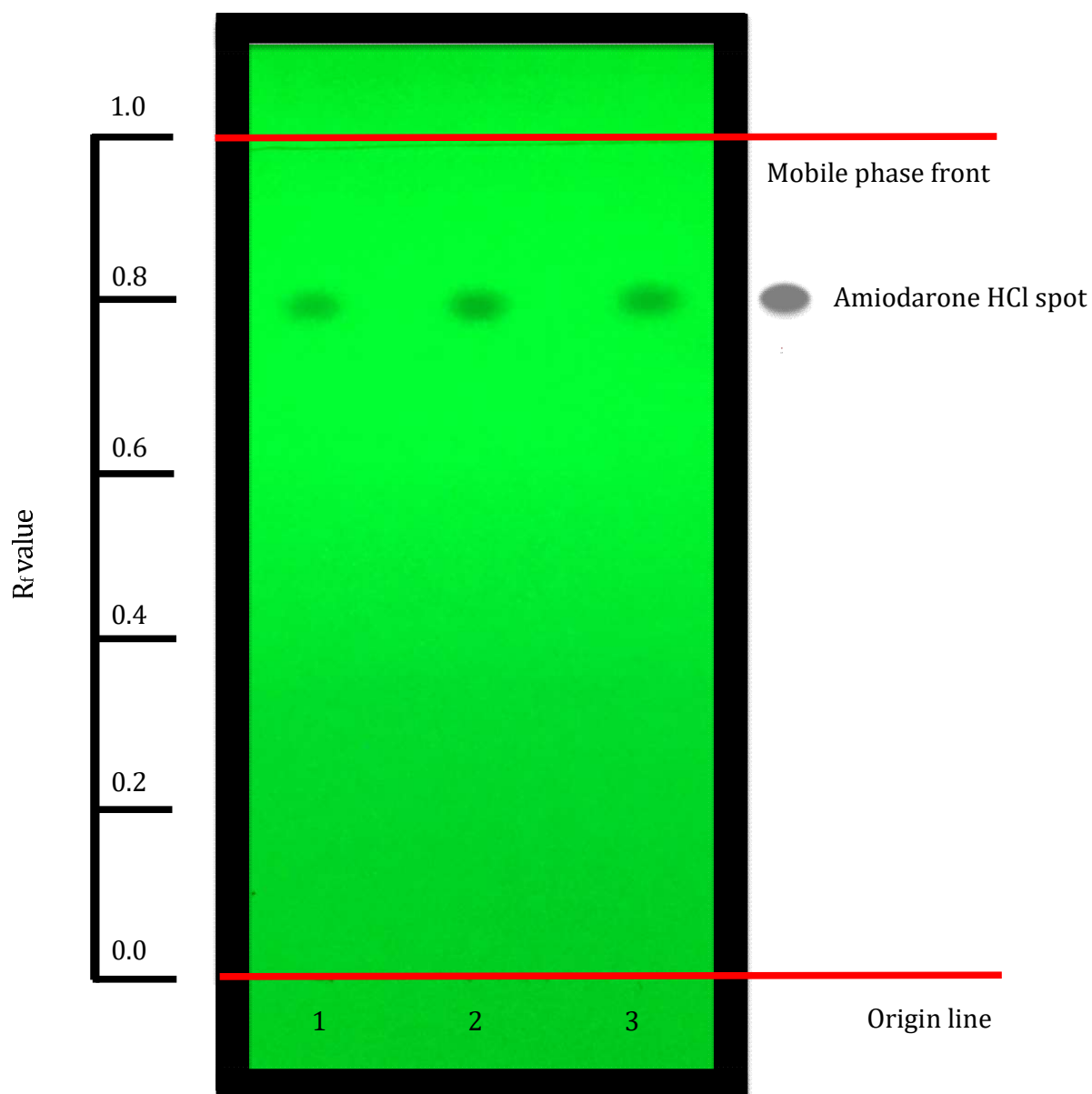


Plate observed under ultraviolet light at 254 nm

Lane 1: Low standard (85%) = 0.510 μg

Lane 2: 100% sample = 0.600 μg

Lane 3: High standard (115%) = 0.690 μg

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