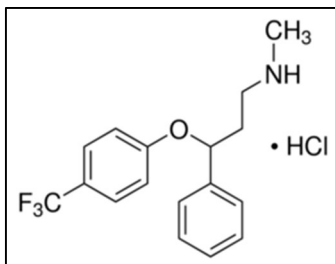


Fluoxetine Hydrochloride 20 mg Capsule

Structure:



Molecular Formula and Mass: C₁₇H₁₈F₃NO · HCl - 345.79

Category: Antidepressant

Sample:

Empty the contents of one capsule and dissolve in 15.0 mL of 100% methanol. Shake at least 5 min. Concentration of sample solution = 20.0 mg/15.0 mL = 1.33 mg/mL, which is the required concentration representing 100%.

Standards:

High Standard:

The high limit is 115%; therefore the concentration of the high standard = (1.33 mg/mL X 1.15 = 1.53 mg/mL. Weigh approximately 23.0 mg of standard. If you weighed 23.1 mg of standard, dissolve it in: (23.1 mg)/(1.53 mg/mL) = 15.1 mL of methanol. This makes the high standard solution concentration equal to 1.53 mg/mL.

Low Standard:

The low limit is 85%; therefore the concentration of the low standard = (1.33 mg/mL X 0.85 = 1.13 mg/mL. Dilute 1.00 mL of high standard to 1.13 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 µL aliquots as follows:

Left spot	low standard (85%) = 3.40 µg
Center Spot	100% sample = 4.00 µg
Right Spot	high standard (115%) = 4.60 µg

Development:

Mix 24.00 mL of acetone, 14.00 mL toluene and 2.00 mL of concentrated ammonium hydroxide. Develop the plate in a small glass chamber with approximately 20.00 mL of this solution until the solvent front reaches within 1 cm of the top of the TLC plate. (R_f = 0.62)

Detection:

UV:

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

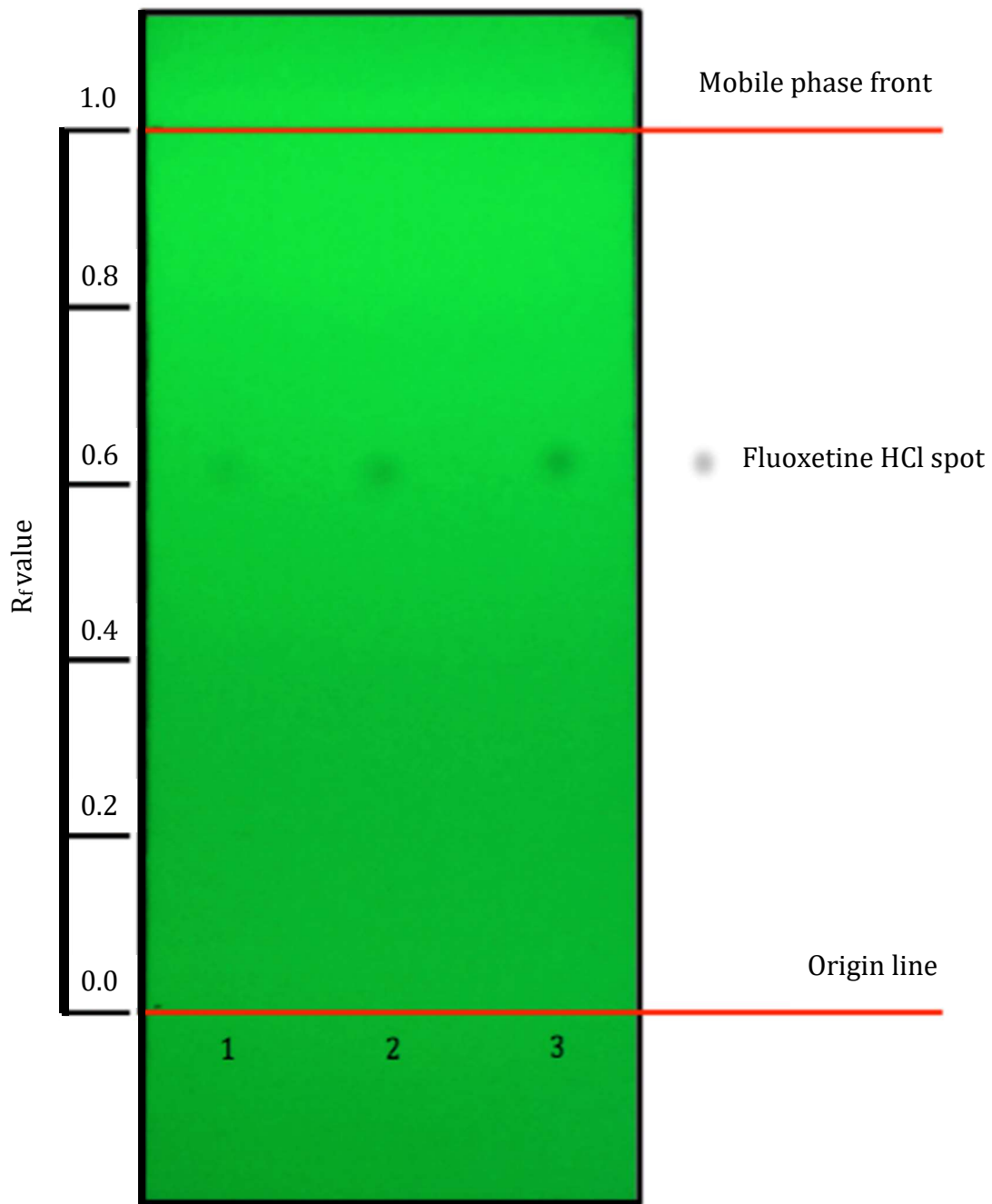


Plate observed under ultraviolet light at 254 nm

Lane 1: Low standard (85%) = 3.40 μg

Lane 2: 100% sample = 4.00 μg

Lane 3: High standard (115%) = 4.60 μg

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