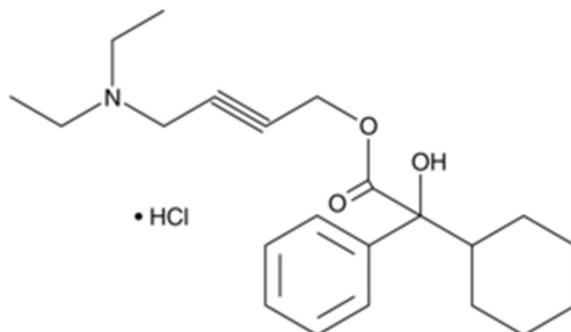


Oxybutynin HCl
10 mg Tablet

Structure:



Molecular Formula and Mass: C₂₂H₃₁NO₃ – 393.952

Category: Bladder relaxant

Sample:

Grind one tablet and dissolve in 10.0 mL of methanol. Shake for at least 10 min and filter. Final concentration of sample solutions is 1.00 mg/mL, which is the required concentration representing 100%.

High Standard:

The high limit is 115%; therefore the concentration of the high standard is 1.00 mg/mL × 115% = 1.15 mg/mL. Weigh approximately 115 mg of standard and dissolve it in 100 mL of methanol. This makes the high standard solution concentration equal to 1.15 mg/mL, which is 115%.

Low Standard:

The low limit is 85%; therefore the concentration of the low standard = 1.00 mg/mL × 85% = 0.850 mg/mL. Dilute 1.70 mL of high standard to 2.30 mL by adding 0.60 mL of methanol. This gives a concentration of 1.15 mg/mL × 1.70 mL ÷ 2.30 mL = 0.850 mg/mL, which is 85%.

Spotting:

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

Left spot	low standard (85%) = 2.55 µg
Center Spot	100% sample = 3.00 µg
Right Spot	high standard (115%) = 3.45 µg

Development:

Mix 24.0 mL of toluene, 3.00 mL of methanol, and 3.00 mL of acetone. Develop the plate in a small glass chamber with approximately 20.0 mL of this solution until the mobile phase front reaches within 1 cm of the top of the TLC plate.

(R_f = 0.58)

Detection:

UV:

Heat the TLC plate on a hotplate for around 25 min at 190°C to induce fluorescence quenching of the fluorescent indicator in the silica gel F₂₅₄ layer due to thermochemical activation.. Observe the intensities and the sizes of the spots 254 nm UV light.

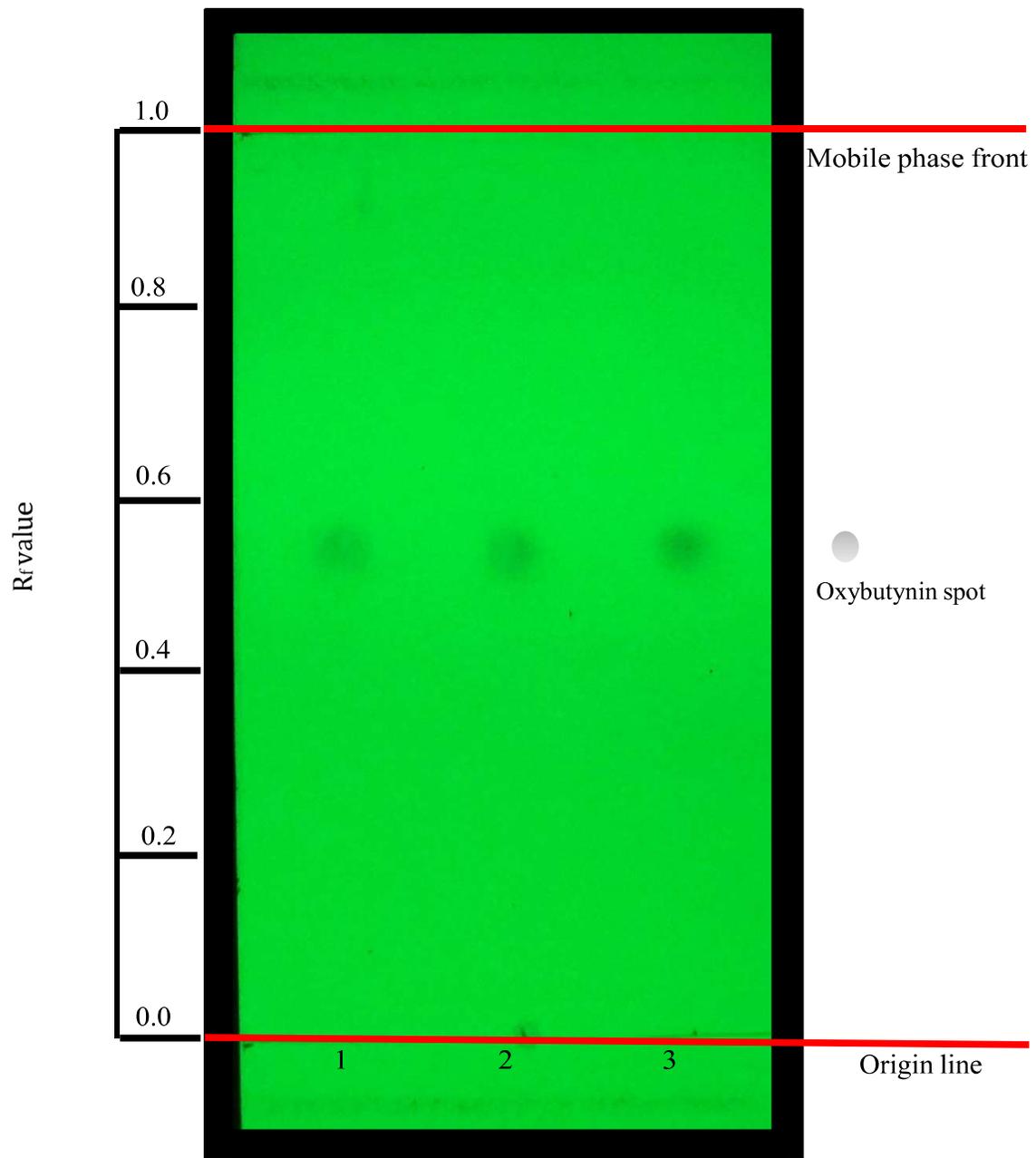


Plate observed under ultraviolet light at 254 nm.

Lane 1: Low standard (85%) = 2.55 μg

Lane 2: 100% sample = 3.00 μg

Lane 3: High standard (115%) = 3.45 μg

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