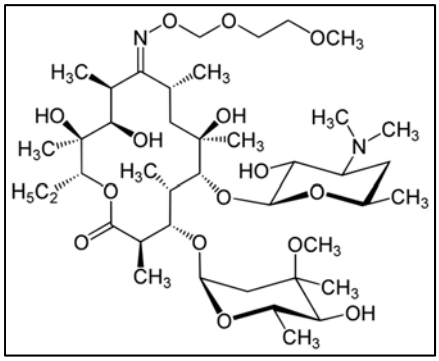
Roxithromycin
150 mg capsule

Structure:



Molecular Formula & Mass: $C_{41}H_{76}N_2O_{15}$ – 837.05
Category: Antibacterial
Sample:

Dissolve the contents of 1 capsule in 64.0 mL methanol. Shake at least 5 min. Concentration of solution = 150 mg/64.0 mL = 2.34 mg/mL. Solution is then filtered. Final concentration of sample solution = 2.34 mg/mL, which is the required concentration representing 100%.

Standards:

<u>High standard:</u>

The high limit is 115%; therefore the concentration of the high standard = 2.34 mg/mL X 1.15 = 2.69 mg/mL. Weigh approximately 269 mg of standard. If you weighed 270 mg of standard, dissolve it in: (270 mg/2.69 mg/mL) = 100.4 mL of methanol. This makes the high standard solution concentration equal to 2.69 mg/mL.

<u>Low standard:</u>

The low limit is 85%; therefore the concentration of the low standard = 2.34 mg/mL X 0.85 = 1.99 mg/mL.

Spotting:

Spot on the 5 X 10 cm silica gel TLC aluminium plate with 3 µL aliquots as follows:

Left spot	low standard (85%) = 5.97 µg
Center Spot	100% sample = 7.02 µg
Right Spot	high standard (115%) = 8.07 µg

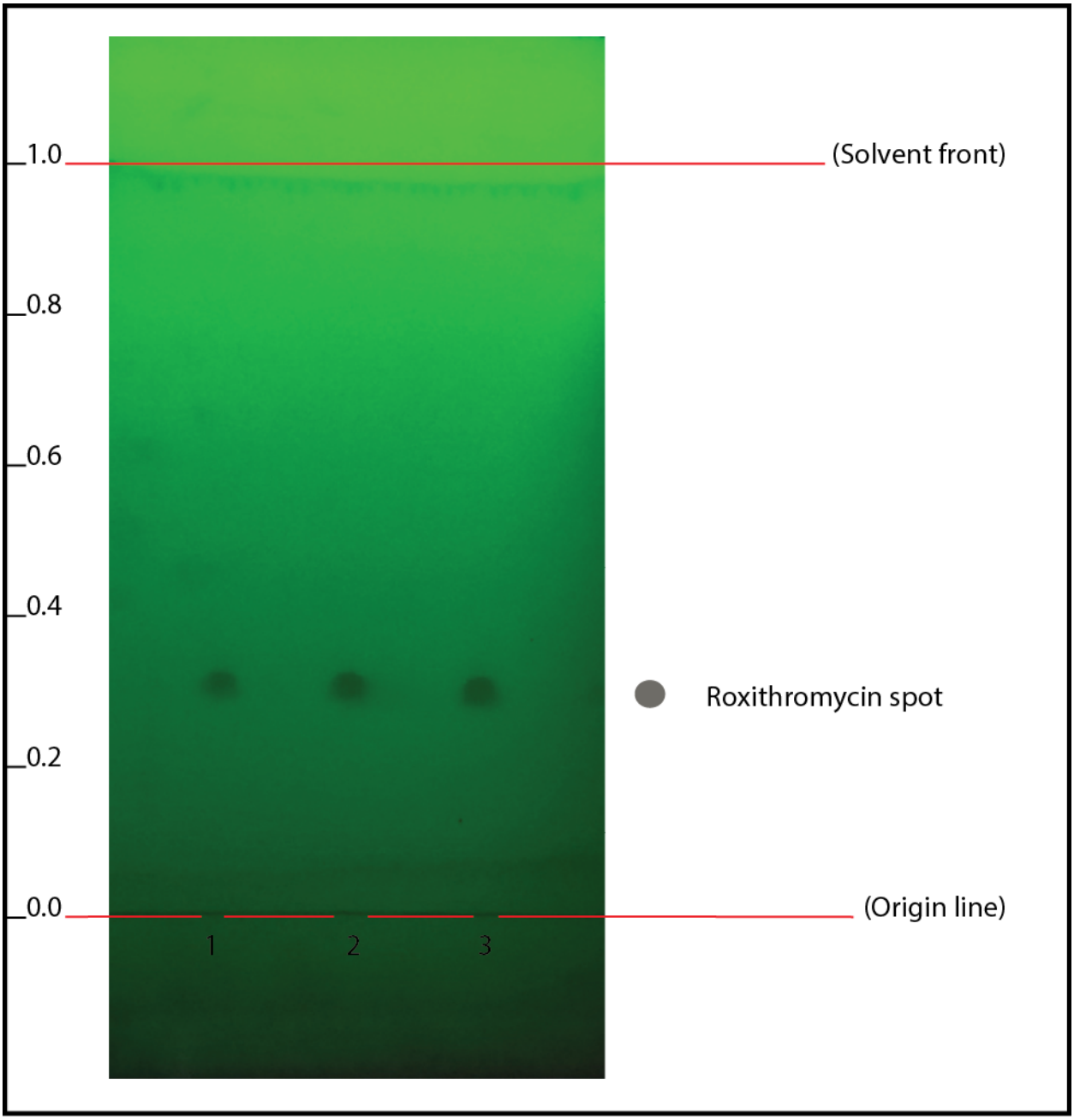
Development:

Mix 12.0 mL of ethyl acetate, 4.00 mL glacial acetic acid, and 4.00 mL water. 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 = 0.20)

Detection:

<u>UV:</u> The spots are not naturally visible as fluorescence quenched spots under 254 nm UV light.

<u>Heating:</u> Heat the plate on a hotplate at 160°C for 15 minutes or with other temperature and time conditions that also produce spots that are visible under 254 nm UV light, then observe the size and intensity of the spots.



Chromatoplate observed under 254 nm UV light after heating

Run No. 1: Low standard (85%) = 5.97 µg

Run No. 2: 100% sample = 7.02 µg

Run No. 3: High standard (115%) = 8.07 µg

Developed and tested by Ellen Armour and Joseph Sherma, Department of Chemistry, Lafayette College, Easton, PA, USA, November, 2016.