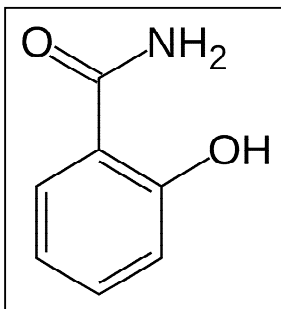


Salicylamide
152 mg in Co-formulation Tablet
With 110 mg Acetaminophen, 162 mg Aspirin, and 32.4 mg Caffeine

Structure:



Molecular Formula and Mass: C₇H₇NO₂ – 137.138

Category: Analgesic

Sample:

Grind one tablet and dissolve in 100 mL ethanol. Shake at least 10 min and filter. Final concentration of sample solution = 152 mg/100 mL = 1.52 mg/mL, which is the required concentration representing 100%.

Standards:

High Standard:

The high limit is 115%; therefore the concentration of the high standard = (1.52 mg/mL X 1.15 = 1.75 mg/mL. Weigh approximately 43.7 mg of standard. If you weighed 43.8 mg of standard, dissolve it in: (43.8 mg)/(1.75 mg/mL) = 25.0 mL of ethanol. This makes the high standard solution concentration equal to 1.75 mg/mL.

Low Standard:

The low limit is 85%; therefore the concentration of the low standard = (1.52 mg/mL X 0.85 = 1.29 mg/mL. Dilute 1.00 mL of high standard to 1.35 mL by adding 0.35 mL of ethanol (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%) = 3.87 µg
Center Spot	100% sample = 4.56 µg
Right Spot	high standard (115%) = 5.25 µg

Development:

Mix 36.0 mL of ethyl acetate, 8.00 mL of acetone, and 0.200 mL of glacial acetic acid. 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 = 0.60)

Detection:

UV:

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

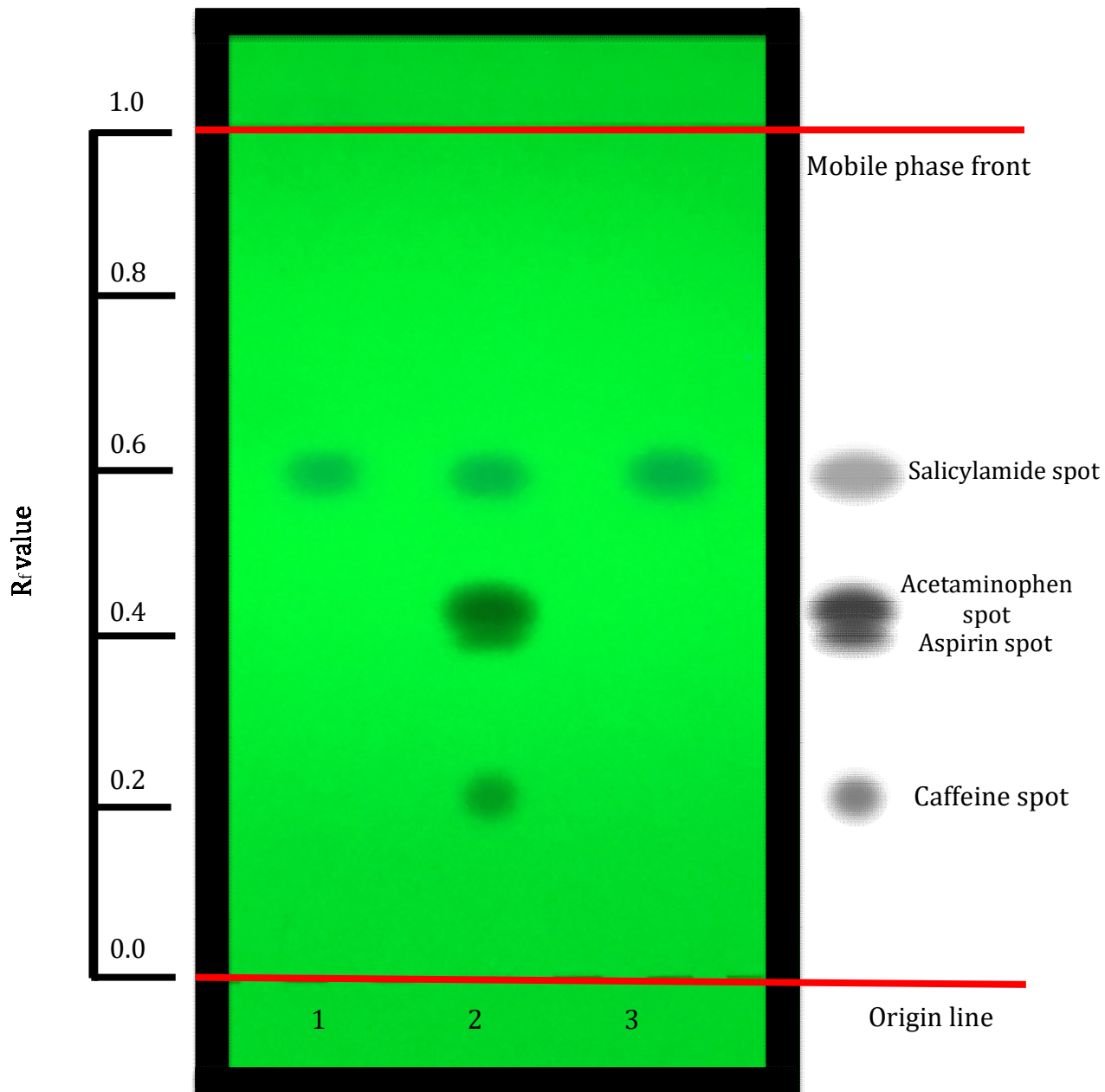


Plate observed under ultraviolet light at 254 nm

Lane 1: Low standard (85%) = 3.87 μg

Lane 2: 100% sample = 4.56 μg

Lane 3: High standard (115%) = 5.25 μg

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