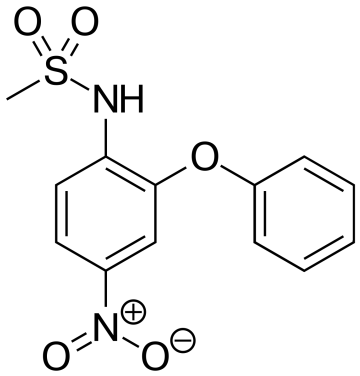
**Nimesulide**
**100 mg Capsule**

**Structure:**



**Molecular Formula and Mass:** $C_{13}H_{12}N_2O_5S$ – 308.308
**Category:** Nonsteroidal Anti-Inflammatory Drug
**Sample:**

Dissolve the contents of one capsule in 100 mL of methanol. Shake at least 10 min and filter. 100 mg/100 mL = 1.00 mg/mL. Further dilute 1.00 mL with an additional 0.200 mL of methanol, for a total volume of 1.20 mL. Final concentration of sample solution = 1.00 mg/1.20 mL = 0.833mg/mL, which is the required concentration representing 100%.

**Standards:**

High Standard:

The high limit is 115%; therefore the concentration of the high standard = (0.833 mg/mL X 1.15 = 0.958 mg/mL. Weigh approximately 47.9 mg of standard. If you weighed 48.0 mg of standard, dissolve it in: (48.0 mg)/(0.958 mg/mL) = 50.1 mL of methanol. This makes the high standard solution concentration equal to 0.958 mg/mL.

Low Standard:

The low limit is 85%; therefore the concentration of the low standard = (0.833 mg/mL X 0.85 = 0.709 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%) = 2.13 µg |
| Center Spot | 100% sample = 2.50 µg |
| Right Spot | high standard (115%) = 2.87 µg |

**Development:**

Mix 50.0 mL of toluene and 5.00 mL of acetone. 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.

($R_f$ = 0.37)

**Detection:**

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

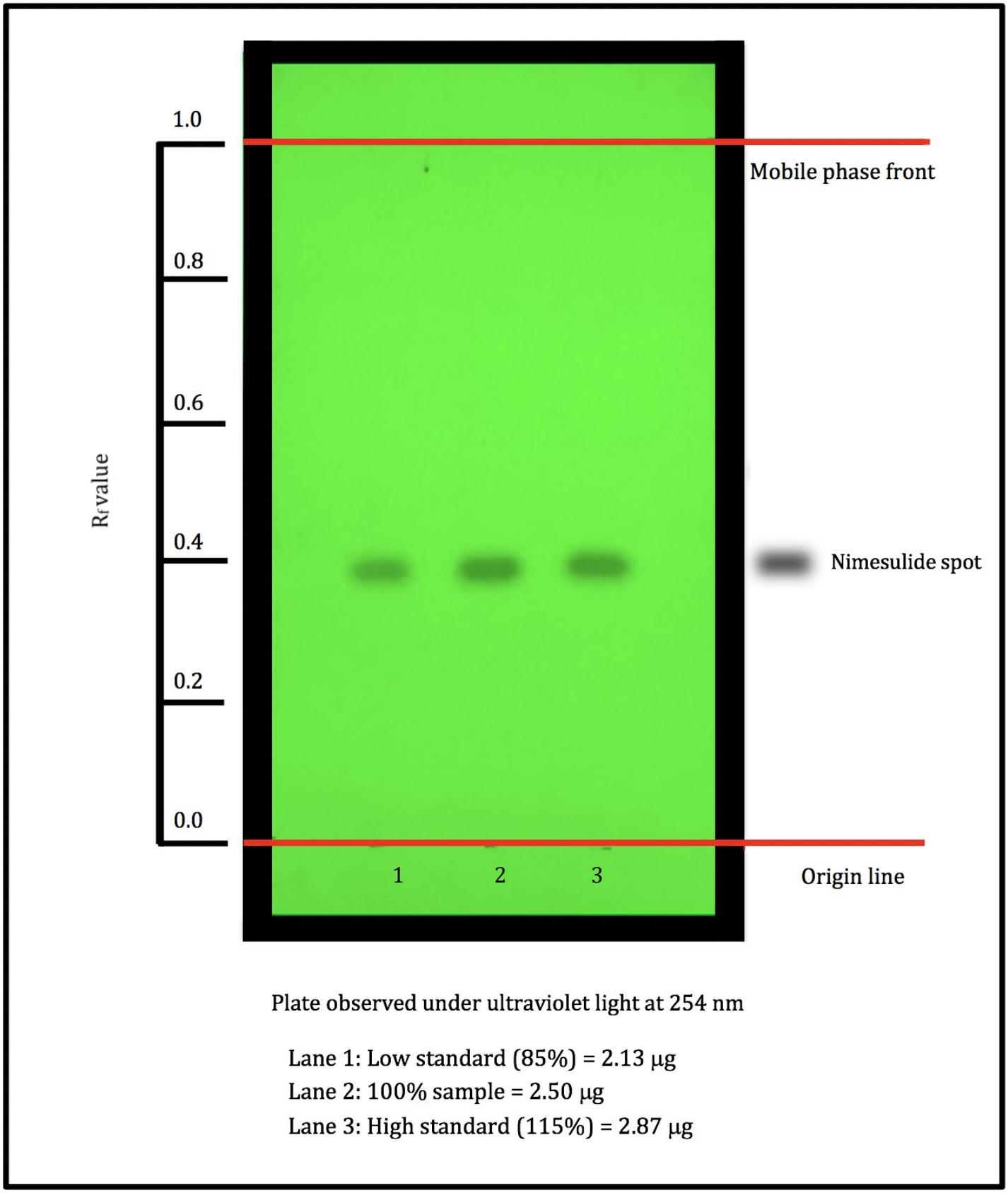



Plate observed under ultraviolet light at 254 nm

Lane 1: Low standard (85%) = 2.13 μg
Lane 2: 100% sample = 2.50 μg
Lane 3: High standard (115%) = 2.87 μg

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