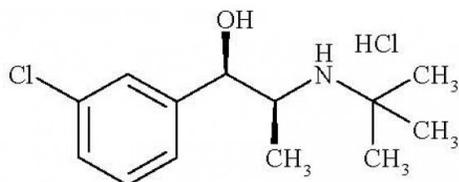


**Bupropion HCl**  
**150 mg Tablet**

**Structure:**



**Molecular Formula and Mass:** C<sub>13</sub>H<sub>19</sub>ClNO– 276.2 g/mol

**Category:** Antidepressant of the aminoketone class

**Sample:**

Grind one tablet and dissolve in 100 mL of methanol. Shake for at least 10 min and filter: 150 mg/100 mL = 1.50 mg/mL. Dilute 1.00 mL with an additional 9.00 mL of methanol, for a total volume of 10.0 mL. 1.50 mg/ 10.0 mL = 0.150 mg/mL. Final concentration of sample solutions is 0.150 mg/mL, which is the required concentration representing 100%.

High Standard:

The high limit is 115%; therefore the concentration of the high standard is 0.150 mg/mL × 115% = 0.172 mg/mL. Weigh approximately 17.3 mg of standard and dissolve it in 100 mL of methanol. This makes the high standard solution concentration equal to 0.173 mg/mL, which is 115%.

Low Standard:

The low limit is 85%; therefore the concentration of the low standard = 0.150 mg/mL × 85% = 0.128 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 0.173 mg/mL × 1.70 mL ÷ 2.30 mL = 0.129 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%) = 0.382 µg
Center Spot	100% sample = 0.450 µg
Right Spot	high standard (115%) = 0.518 µg

**Development:**

Mix 24.0 mL of ethyl acetate, 3.00 mL of methanol, and 1.00 mL concentrated ammonium hydroxide. 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<sub>f</sub> = 0.72)

**Detection:**

UV:

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

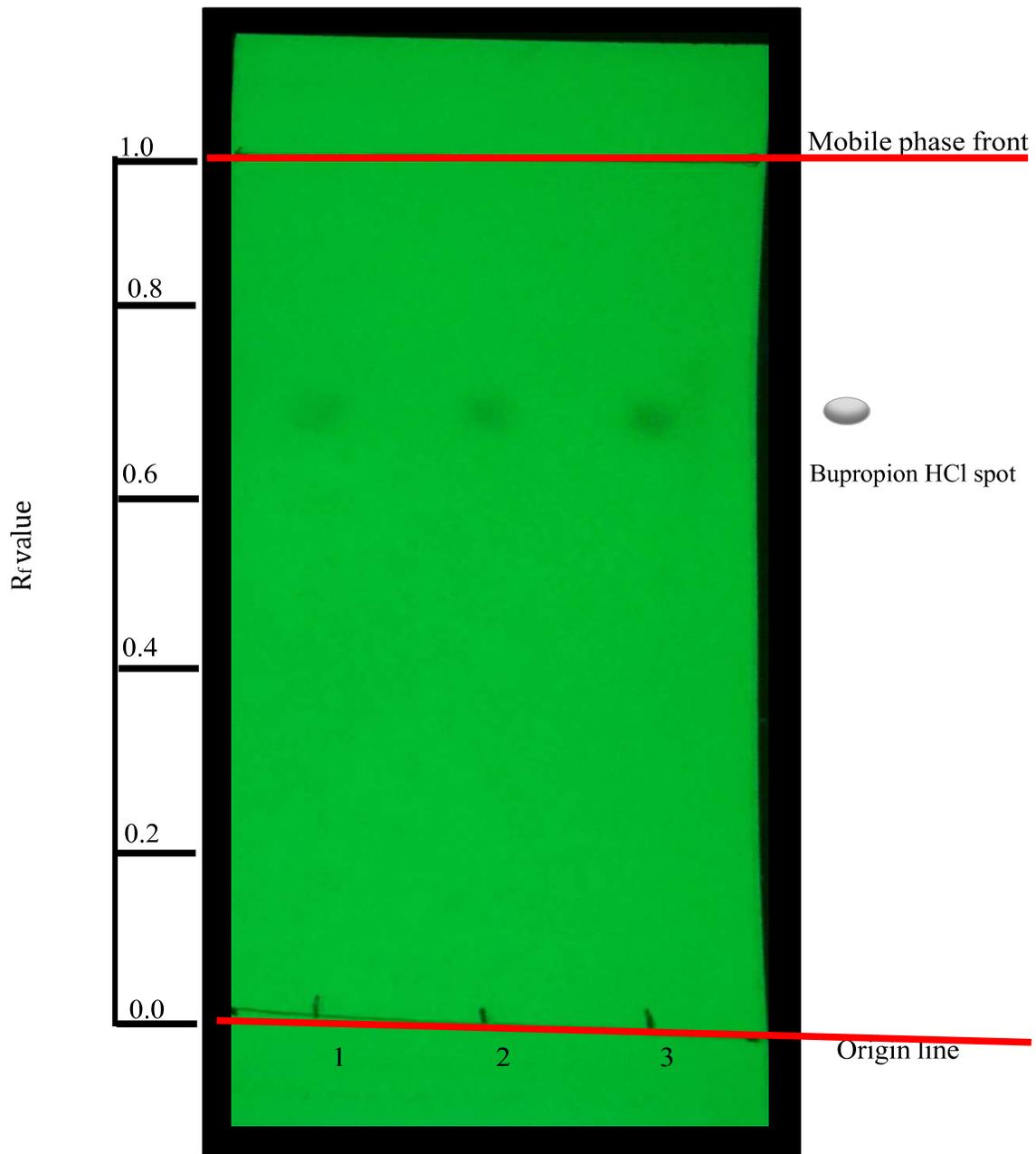


Plate observed under ultraviolet light at 254 nm.

Lane 1: Low standard (85%) = 0.382  $\mu\text{g}$

Lane 2: 100% sample = 0.450  $\mu\text{g}$

Lane 3: High standard (115%) = 0.518  $\mu\text{g}$

Developed and tested by Yiru Gu and Joseph Sherma  
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July, 2019

Yiru Gu's research was supported by a Camille and Henry Dreyfus Senior Scientist Mentor Program award to JS and by the Lafayette College EXCEL Scholars Program.