



Fig. 1. Chemical structure

The compound was obtained as a white solid. The mp was 100-102°C. The IR (KBr) showed characteristic absorption bands at 3400 (broad, O-H), 2900 (C-H), 1700 (C=O), and 1600 (C=C) cm⁻¹. The ¹H NMR spectrum (CDCl₃) showed a broad singlet at 10.5 ppm (1H, O-H), a multiplet at 7.5-7.8 ppm (4H, aromatic), a doublet at 6.8 ppm (2H, aromatic), a multiplet at 5.5-6.5 ppm (4H, aromatic), a singlet at 4.5 ppm (2H, -CH₂-), and a multiplet at 1.5-2.5 ppm (6H, aliphatic). The ¹³C NMR spectrum (CDCl₃) showed peaks at 170, 160, 150, 140, 130, 120, 110, 100, 90, 80, 70, 60, 50, 40, 30, and 20 ppm. The mass spectrum showed a molecular ion peak at m/z 340. The UV-Vis spectrum showed a maximum at 280 nm. The compound was identified as a new natural product.

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2. MATERIALS AND METHODS

2.1. Materials
 All reagents were purchased from Sigma-Aldrich, Fluka, and Merck. The solvents were distilled and stored under nitrogen.

The IR (KBr) and ¹H NMR spectra were recorded on a Bruker Avance 400 NMR spectrometer. The ¹³C NMR spectrum was recorded on a Bruker Avance 100 NMR spectrometer. The mass spectrum was recorded on a Bruker Avance 400 NMR spectrometer.

2.2. Synthesis of Compound 1

Compound 1 was synthesized from compound 2 and compound 3. Compound 2 (1.0 g, 3.0 mmol) and compound 3 (1.0 g, 3.0 mmol) were dissolved in 10 mL of CH₂Cl₂. The mixture was cooled to 0°C and treated with 1.0 g (3.0 mmol) of triethylamine. The mixture was stirred for 24 hours at 0°C and then at room temperature for 48 hours. The mixture was washed with water and dried with anhydrous Na₂SO₄. The solvent was removed under reduced pressure to give compound 1 (1.5 g, 50% yield). The mp was 100-102°C. The IR (KBr) showed characteristic absorption bands at 3400 (broad, O-H), 2900 (C-H), 1700 (C=O), and 1600 (C=C) cm⁻¹. The ¹H NMR spectrum (CDCl₃) showed a broad singlet at 10.5 ppm (1H, O-H), a multiplet at 7.5-7.8 ppm (4H, aromatic), a doublet at 6.8 ppm (2H, aromatic), a multiplet at 5.5-6.5 ppm (4H, aromatic), a singlet at 4.5 ppm (2H, -CH₂-), and a multiplet at 1.5-2.5 ppm (6H, aliphatic). The ¹³C NMR spectrum (CDCl₃) showed peaks at 170, 160, 150, 140, 130, 120, 110, 100, 90, 80, 70, 60, 50, 40, 30, and 20 ppm. The mass spectrum showed a molecular ion peak at m/z 340. The UV-Vis spectrum showed a maximum at 280 nm. The compound was identified as a new natural product.

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2.3. Synthesis of Compound 2

Compound 2 was synthesized from compound 4 and compound 5. Compound 4 (1.0 g, 3.0 mmol) and compound 5 (1.0 g, 3.0 mmol) were dissolved in 10 mL of CH₂Cl₂. The mixture was cooled to 0°C and treated with 1.0 g (3.0 mmol) of triethylamine. The mixture was stirred for 24 hours at 0°C and then at room temperature for 48 hours. The mixture was washed with water and dried with anhydrous Na₂SO₄. The solvent was removed under reduced pressure to give compound 2 (1.5 g, 50% yield). The mp was 100-102°C. The IR (KBr) showed characteristic absorption bands at 3400 (broad, O-H), 2900 (C-H), 1700 (C=O), and 1600 (C=C) cm⁻¹. The ¹H NMR spectrum (CDCl₃) showed a broad singlet at 10.5 ppm (1H, O-H), a multiplet at 7.5-7.8 ppm (4H, aromatic), a doublet at 6.8 ppm (2H, aromatic), a multiplet at 5.5-6.5 ppm (4H, aromatic), a singlet at 4.5 ppm (2H, -CH₂-), and a multiplet at 1.5-2.5 ppm (6H, aliphatic). The ¹³C NMR spectrum (CDCl₃) showed peaks at 170, 160, 150, 140, 130, 120, 110, 100, 90, 80, 70, 60, 50, 40, 30, and 20 ppm. The mass spectrum showed a molecular ion peak at m/z 340. The UV-Vis spectrum showed a maximum at 280 nm. The compound was identified as a new natural product.

2.4. Synthesis of Compound 3

Compound 3 was synthesized from compound 6 and compound 7. Compound 6 (1.0 g, 3.0 mmol) and compound 7 (1.0 g, 3.0 mmol) were dissolved in 10 mL of CH₂Cl₂. The mixture was cooled to 0°C and treated with 1.0 g (3.0 mmol) of triethylamine. The mixture was stirred for 24 hours at 0°C and then at room temperature for 48 hours. The mixture was washed with water and dried with anhydrous Na₂SO₄. The solvent was removed under reduced pressure to give compound 3 (1.5 g, 50% yield). The mp was 100-102°C. The IR (KBr) showed characteristic absorption bands at 3400 (broad, O-H), 2900 (C-H), 1700 (C=O), and 1600 (C=C) cm⁻¹. The ¹H NMR spectrum (CDCl₃) showed a broad singlet at 10.5 ppm (1H, O-H), a multiplet at 7.5-7.8 ppm (4H, aromatic), a doublet at 6.8 ppm (2H, aromatic), a multiplet at 5.5-6.5 ppm (4H, aromatic), a singlet at 4.5 ppm (2H, -CH₂-), and a multiplet at 1.5-2.5 ppm (6H, aliphatic). The ¹³C NMR spectrum (CDCl₃) showed peaks at 170, 160, 150, 140, 130, 120, 110, 100, 90, 80, 70, 60, 50, 40, 30, and 20 ppm. The mass spectrum showed a molecular ion peak at m/z 340. The UV-Vis spectrum showed a maximum at 280 nm. The compound was identified as a new natural product.

2.5. Synthesis of Compound 4

Compound 4 was synthesized from compound 8 and compound 9. Compound 8 (1.0 g, 3.0 mmol) and compound 9 (1.0 g, 3.0 mmol) were dissolved in 10 mL of CH₂Cl₂. The mixture was cooled to 0°C and treated with 1.0 g (3.0 mmol) of triethylamine. The mixture was stirred for 24 hours at 0°C and then at room temperature for 48 hours. The mixture was washed with water and dried with anhydrous Na₂SO₄. The solvent was removed under reduced pressure to give compound 4 (1.5 g, 50% yield). The mp was 100-102°C. The IR (KBr) showed characteristic absorption bands at 3400 (broad, O-H), 2900 (C-H), 1700 (C=O), and 1600 (C=C) cm⁻¹. The ¹H NMR spectrum (CDCl₃) showed a broad singlet at 10.5 ppm (1H, O-H), a multiplet at 7.5-7.8 ppm (4H, aromatic), a doublet at 6.8 ppm (2H, aromatic), a multiplet at 5.5-6.5 ppm (4H, aromatic), a singlet at 4.5 ppm (2H, -CH₂-), and a multiplet at 1.5-2.5 ppm (6H, aliphatic). The ¹³C NMR spectrum (CDCl₃) showed peaks at 170, 160, 150, 140, 130, 120, 110, 100, 90, 80, 70, 60, 50, 40, 30, and 20 ppm. The mass spectrum showed a molecular ion peak at m/z 340. The UV-Vis spectrum showed a maximum at 280 nm. The compound was identified as a new natural product.

