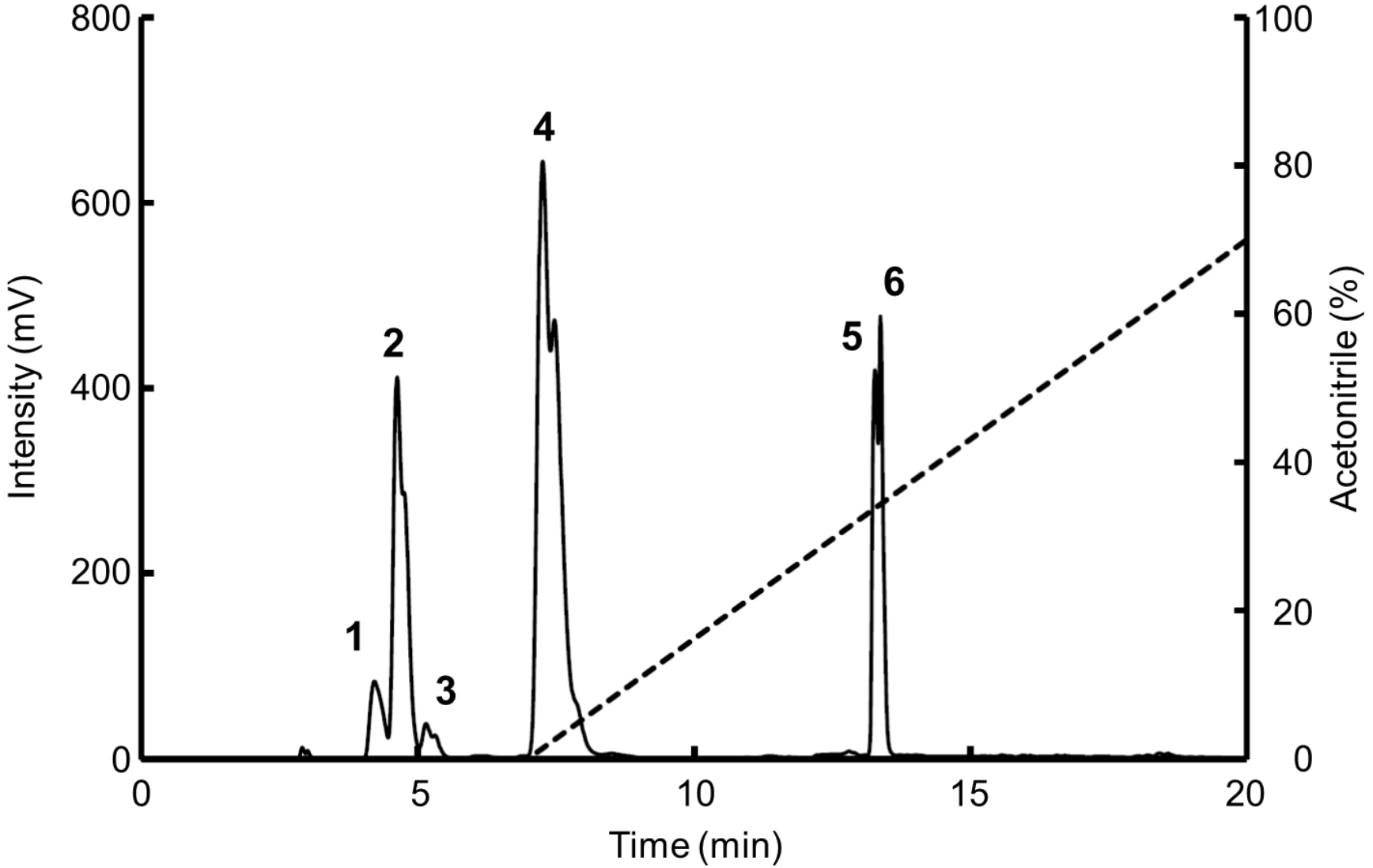

Supplementary Figure S1. HPLC chromatogram of dulse crude MAAs solution.
MAAs were isolated by reversed-phase HPLC using a Mightysil RP-18GP column (5 μm, 10 × 250 mm) (Kanto Kagaku, Tokyo, Japan), with the column oven set to 40 °C and a detection wavelength of 330 nm, using an isocratic elution of pure water containing 0.1% TFA for 7 min, and a linear gradient of acetonitrile (0–70%) containing 0.1% TFA for 13 min, at a flow rate of 4.73 mL/min. The data represents the typical MAA peaks: (1), shinorine; (2), palythine; (3), Asterina-330; (4), porphyra-334; (5), usujirene; (6) palythene.