6.2.3.2 Inhibition Assay for α-Amylase Activity

α-Amylase was premixed with extract at various concentrations (50–200 µg/mL) and starch as a substrate was added (0.5% starch solution) to start the reaction. The reaction was carried out at 37°C for 5 min and terminated by the addition of 2 mL of DNS (3,5-dinitrosalicylic acid) reagent. The reaction mixture was heated for 15 min at 100°C and diluted with 10 mL of distilled water in an ice bath (Miller 1959). α-Amylase activity was determined by measuring the spectrum at 540 nm. The IC50 value was defined as the concentration of α-amylase inhibitor to inhibit 50% of its activity under the assay conditions.

6.3 RESULTS

6.3.1 α-Glucosidase and α-Amylase Inhibitory Activity

The IC_{50} values of α-glucosidase inhibition for *F. amplissima* leaf, bark and fruit extracts were indicated in Figures 6.1 through 6.3. All the extracts displayed potent α-glucosidase inhibitory activity at the primary screening concentration. Among the extracts, the methanol extract of leaves and bark and the acetone extract of fruit (IC_{50}: 150, 86 and 98 µg/mL, respectively) displayed strong α-glucosidase

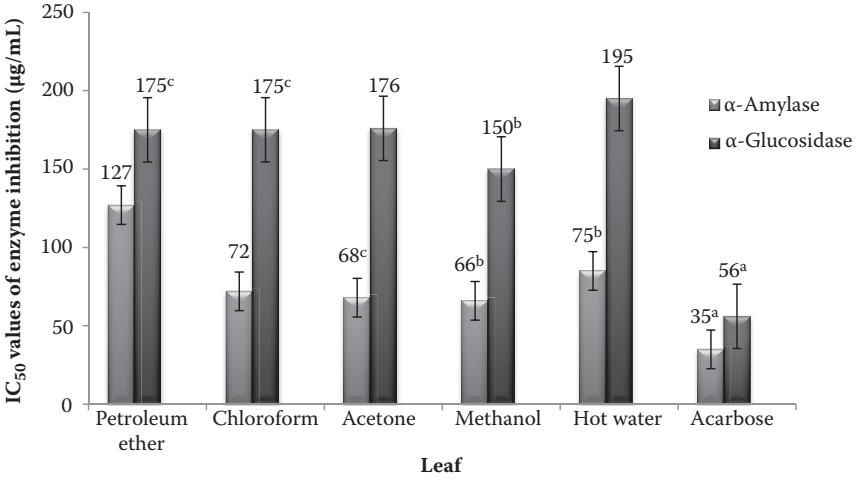

FIGURE 6.1 α-Amylase and α-glucosidase inhibitory activity of *F. amplissima* leaf extracts. Values are mean of triplicate determination (n = 3) ± standard deviation; Statistically significant at $p < 0.05$ where $^{a} > ^{b} > ^{c}$; The IC_{50} value was defined as the concentration of enzyme inhibitor to inhibit 50% of its activity under the assay conditions.