

Supplementary Table 1 Results of univariate meta-regression analysis

| Variables                  | MD for the influence of SGLT2 inhibitors on HOMA-IR |                   |          |                         | MD for the influence of SGLT2 inhibitors on HOMA-β |                 |          |                         |
|----------------------------|-----------------------------------------------------|-------------------|----------|-------------------------|----------------------------------------------------|-----------------|----------|-------------------------|
|                            | Coefficient                                         | 95% CI            | P values | Adjusted R <sup>2</sup> | Coefficient                                        | 95% CI          | P values | Adjusted R <sup>2</sup> |
| Sample size                | 0.0016                                              | -0.0012 to 0.0044 | 0.24     | 7.0%                    | 0.058                                              | -0.017 to 0.133 | 0.12     | 15.4%                   |
| Mean age (years)           | -0.021                                              | -0.090 to 0.048   | 0.53     | -10.6%                  | -0.84                                              | -3.10 to 1.41   | 0.44     | -5.7%                   |
| Men (%)                    | 0.0028                                              | -0.0263 to 0.0318 | 0.84     | -5.7%                   | -0.21                                              | -0.54 to 0.12   | 0.19     | 15.9%                   |
| Baseline HbA1c (%)         | 0.19                                                | -0.84 to 1.21     | 0.71     | -7.9%                   | -1.25                                              | -18.31 to 15.81 | 0.88     | -7.6%                   |
| T2D duration (years)       | -0.031                                              | -0.176 to 0.114   | 0.65     | -11.4%                  | 0.10                                               | -1.31 to 1.51   | 0.88     | -8.0%                   |
| Treatment duration (weeks) | -0.031                                              | -0.068 to 0.005   | 0.09     | 1.3%                    | 0.18                                               | -0.04 to 0.41   | 0.11     | 15.6%                   |

MD, mean difference; CI, confidence interval; T2D, type 2 diabetes; SGLT2, sodium glucose transporter 2; HOMA-IR, homeostasis model assessment of insulin resistance; HOMA-β, homeostasis model assessment of beta cell function;