|                            | Glucose drink |                   | White bread |                    | Whole grain bread |                    |
|----------------------------|---------------|-------------------|-------------|--------------------|-------------------|--------------------|
|                            | 100 g         | Portion<br>(67 g) | 100 g       | portion<br>(104 g) | 100 g             | portion<br>(143 g) |
| Energy (kcal)              | 1256          | 837               | 1120        | 1167               | 962               | 1374               |
| Energy (kcal)              | 300           | 200               | 265         | 276                | 229               | 327                |
| Available carbohydrate (g) | 75            | 50                | 48          | 50                 | 35                | 50                 |
| Sugar (g)                  | 75            | 50                | 4.0         | 4.2                | 2.3               | 3.3                |
| Total fiber (g)            | 0             | 0                 | 3.0         | 3.1                | 6.9               | 9.9                |
| Total fat (g)              | 0             | 0                 | 3.8         | 4.0                | 4.9               | 7.0                |
| Saturated fatty acids (g)  | 0             | 0                 | 2.0         | 2.1                | 0.8               | 1.1                |
| Total protein (g)          | 0             | 0                 | 8.2         | 8.5                | 7.7               | 11                 |
| Sodium (mg)                | 0             | 0                 | 1.1         | 1.1                | 1.2               | 1.7                |

Table S1. Energy and macronutrient distribution of foods.

Data are based on nutritional information from every product used per 100 g product as well as per portion consumed.

Table S2. Correlation matrix between AUCi and selected patient and baseline characteristics.

| Parameter                      | AUCi G 0-60 | AUCi G 0-120 | AUCi WG 0-120 | AUCi WG 0-120 |
|--------------------------------|-------------|--------------|---------------|---------------|
| Age (yrs)                      | r = 0.629   | r = 0.768    | r = 0.867     | r = 0.758     |
|                                | P=0.029     | P=0.004      | P <0.001      | P=0.004       |
| BMI (kg/m²)                    | r = 0.196   | r = 0.364    | r = 0.350     | r = 0.182     |
|                                | P=0.542     | P=0.245      | P=0.265       | P=0.572       |
| Fasting blood glucose (mg/dl)  | r = 0.444   | r = 0.620    | r = 0.838     | r = 0.838     |
|                                | P=0.149     | P =0.032     | P <0.001      | P <0.001      |
| HbA1c (%)                      | r = 0.263   | r = 0.418    | r = 0.319     | r = 0.270     |
|                                | P=0.409     | P=0.177      | P=0.312       | P=0.396       |
| Fasting plasma insulin (µU/mL) | r =- 0.084  | r = 0.042    | r = 0.105     | r = 0.056     |
|                                | P=0.795     | P=0.897      | P = 0.746     | P =0.863      |

Bold numbers are significant after Bonferroni correction (P < 0.003125). G, glucose; WG, whole grain bread.