# Supplementary Materials

# Extraction, Identification and Antioxidant Activity of 3-deoxyanthocyanidins from *Sorghum bicolor* L. Moench Cultivated in China

Yanbei Wu, Yali Wang, Zhengyan Liu, and Jing Wang *

China-Canada Joint Lab of Food Nutrition and Health (Beijing), School of Food and Health, Beijing Technology and Business University (BTBU), 11 Fucheng Road, Beijing, 100048, China

* Correspondence:

**Jing Wang**, email: wangjing@th.btbu.edu.cn

## 1. Single-factor analysis

**Table S1.** Single-factor analysis.

| Level | Factors | | | |
|---|---|---|---|---|
| | Methanol-Acetone /(v/v, %) | Solid-liquid ratio/(g/mL) | Extraction time/min | Extraction temperature/℃ |
| 1 | 60 | 1:5 | 30 | 25 |
| 2 | 70 | 1:10 | 60 | 30 |
| 3 | 80 | 1:15 | 90 | 35 |
| 4 | 90 | 1:20 | 120 | 40 |
| 5 | 100 | 1:25 | 150 | 45 |

## 2. Mobile phase gradient elution conditions

**Table S2.** Mobile phase gradient elution conditions.

| Time/min | Mobile phase A/% | Mobile phase B/% | Flow rate/(mL/min) |
|---|---|---|---|
| 0.01 | 90 | 10 | 1.0 |
| 5 | 90 | 10 | 1.0 |
| 10 | 70 | 30 | 1.0 |
| 20 | 40 | 60 | 1.0 |
| 25 | 80 | 20 | 1.0 |
| 30 | 90 | 10 | 1.0 |

A: 0.1% of formic acid aqueous solution; B: 0.1% of formic acid-acetonitrile solution.

## 3. Composition of DPPH reaction liquids

**Table S3.** Composition of DPPH reaction liquids.

| Composition | Volume of reaction solution/μL | | |
|---|---|---|---|
| | 0 | 1 | 2 |
| DPPH solution | 600 | | 600 |
| Absolute alcohol | 400 | 600 | |
| Sample solution | | 400 | 400 |
| Total volume | 1000 | 1000 | 1000 |

## 4. Composition of $ABTS^{+}$ reaction liquids

**Table S4.** Composition of $ABTS^{+}$ reaction liquids.

| Composition | Volume of reaction solution/μL | |
|---|---|---|
| | 0 | 1 |
| $ABTS^{+}$ solution | 600 | 600 |
| Ultrapure water | 400 | |
| Sample solution | | 400 |
| Total volume | 1000 | 1000 |

## 5. Calculation of recovery rate of 3-DAs components in sorghum

**Table S5.** Calculation of recovery rate of 3-DAs components in sorghum.

| No. | Apigeninidin | | | | Luteolinidin | | | |
|---|---|---|---|---|---|---|---|---|
| | Tested/ mg | Added/ mg | Recovery rate/% | RSD/ % | Tested/ mg | Added/ mg | Recovery rate% | RSD/ % |
| 1 | 0.098 | 0.1 | 98.0 | 1.3% | 0.098 | 0.1 | 98.0 | 1.5% |
| 2 | 0.100 | 0.1 | 100 | | 0.100 | 0.1 | 100 | |
| 3 | 0.195 | 0.2 | 97.5 | | 0.198 | 0.2 | 99.0 | |
| 4 | 0.194 | 0.2 | 97.0 | | 0.193 | 0.2 | 96.5 | |
| 5 | 0.484 | 0.5 | 96.8 | | 0.493 | 0.5 | 98.6 | |
| 6 | 0.500 | 0.5 | 100 | | 0.478 | 0.5 | 95.6 | |