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DE QUÍMICA**

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Marcela A. Segundo, Susana Casal, Paula B. Andrade, José L. F. C. Lima

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28 NOVEMBRO 2014 (SEXTA-FEIRA)

Chairperson: **Pelayo Rubido**

9:00-10:00 **NANOMATERIAIS PARA SENSORES E BIOCENSORES ELECTROQUÍMICOS**
 sn LP5 - CHRISTOPHER BRETT

	Chairperson: Salette Reis salão nobre	Chairperson: Carlos Afonso anfiteatro 5	Chairperson: Artur Silva anfiteatro 8
10:15-10:30	QS8	QO5	BQ1
10:30-10:45	QS9	QO6	BQ2
10:45-11:00	QS10	QO7	QS11

11:00-12:00 CAFÉ E DISCUSSÃO DE PAINÉIS (SESSÃO III)

	Chairperson: Lúcia Saraiva salão nobre	Chairperson: Lucília Saraiva anfiteatro 5	Chairperson: David Pereira anfiteatro 8
12:00-12:15	QAMB13	QA10	NT1
12:15-12:30	QAMB14	QA11	NT2
12:30-12:45	QAMB15	QA12	NT3
12:45-13:00	QAMB16	QA13	NT4
13:00-13:15	QAMB17	QA14	NT5

13:15-15:00 ALMOÇO

	Chairperson: José Alcides Peres salão nobre	Chairperson: Juan Mojin anfiteatro 5	Chairperson: João Luís Santos anfiteatro 8
15:00-15:15	QAMA13	QS12	NT6
15:15-15:30	QAMA14	QS13	NT7
15:30-15:45	QAMA15	QS14	NT8
15:45-16:00	QAMA16	QS15	NT9

	Chairperson: Beatriz Quinaz salão nobre	Chairperson: Luís Magalhães anfiteatro 5	Chairperson: Emília Sousa anfiteatro 8
16:15-16:30	QAMA17	QS16	QO8
16:30-16:45	QAMA18	QS17	QO9
16:45-17:00	QAMA19	QS18	QO10
17:00-17:15	QAMA20	QS19	QO11

17:15-17:30 SESSÃO DE ENCERRAMENTO

Floral bio-residues of *Crocus sativus* L. as a potential source of anthocyanins

João C.M. Barreira^{1,2,3,*}, M. Beatriz P.P. Oliveira¹, Isabel C.F.R. Ferreira³, Anabela S.G. Costa¹, Celestino Santos-Buelga²

¹REQUIMTE/Departamento de Ciências Químicas, Faculdade de Farmácia, Universidade do Porto, Portugal.

²GIP-USAL, Facultad de Farmacia, Universidad de Salamanca, España.

³Centro de Investigação de Montanha (CIMO), ESA, Instituto Politécnico de Bragança, Portugal.

*jbarreira@ipb.pt

Saffron (*Crocus sativus* L.) flower is composed of six purple tepals, three yellow stamens and a white phylliform style ending in a stigma with three threads. Saffron is cultivated for its stigma, which corresponds to the most valued spice worldwide [1]. The production of a single kg of this spice originates about 63 kg of floral bio-residues without any known utilization. These bio-residues have been reported as having high phenolic content with bioactive properties [2] and, therefore, the study of their anthocyanin composition is worthwhile. Accordingly, saffron petals were extracted with acidified (trifluoroacetic acid) methanol and further purified with C18 SepPak® Vac 3 cc cartridges (Phenomenex), followed by filtration (0.22- μ m disposable LC filter disk). Samples were analyzed in a Hewlett-Packard 1100 HPLC (Agilent Technologies) with a quaternary pump and a diode array detector (DAD) coupled to an HP Chem Station data-processing. Double detection was carried out by DAD, using 520 nm as the preferred wavelength, and MS detection, performed in an API 3200 Qtrap (Applied Biosystems) equipped with an ESI source and a triple quadrupole-ion trap mass analyzer (Analyst 5.1 software). The anthocyanin profiles presented three main peaks identified as glycosylated derivatives of delphinidin and petunidin di-*O*-glucosides, and cyanidin *O*-rutinoside, based on their chromatographic, UV and mass spectral characteristics. As far as we know the presence of this later is reported for the first time in *Crocus* spp. Delphinidin di-*O*-glucoside (Fig. 1A) was the major anthocyanin in saffron petals. According to the detected amounts, floral bio-residues of *C. sativus* might be considered as a valuable natural source of anthocyanins with potential industrial applications.

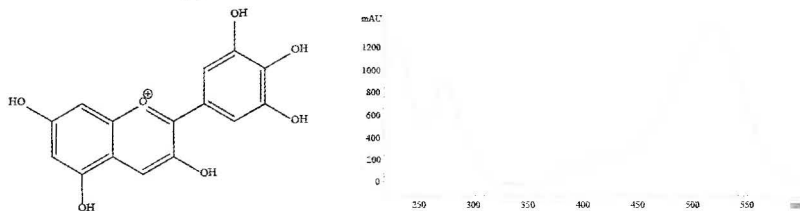


Figure 1: Chemical structure of delphinidin (aglycone form) and UV spectrum (maxima at 232, 276 and 520 nm) of delphinidin di-*O*-glucoside, the major anthocyanin in *C. sativus*.

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REFERENCES

- [1] Serrano-Díaz, J.; Sánchez, A.M.; Maggi, L.; Martínez-Tomé, M.; García-Diz, L.; Murcia, M.A.; Alonso, G.L. *J. Food Sci.* **2012**, *77*, 1162-1168.
- [2] Serrano-Díaz, J.; Estevan, C.; Sogorb, Á.; Carmona, M.; Alonso, G.L.; Vilanova, E. *Food Chem.* **2014**, *147*, 55-59.