

# Onion Peel: Turning a Food Waste into a Resource

Rita Celano <sup>1,+</sup>, Teresa Docimo <sup>2,+</sup>, Anna Lisa Piccinelli <sup>1,\*</sup>, Patrizia Gazzerro <sup>1</sup>, Marina Tucci <sup>2</sup>, Rosa Di Sanzo <sup>3</sup>,  
Sonia Carabetta <sup>3</sup>, Luca Campone <sup>4</sup>, Mariateresa Russo <sup>3,\*</sup>, Luca Rastrelli <sup>1</sup>

<sup>1</sup> Department of Pharmacy, University of Salerno, Via Giovanni Paolo II 132, 84084 Fisciano (SA), Italy; [rcelano@unisa.it](mailto:rcelano@unisa.it) (R.C), [apiccinelli@unisa.it](mailto:apiccinelli@unisa.it) (A.L.P), [pgazzerro@unisa.it](mailto:pgazzerro@unisa.it) (P.G.), [rastrelli@unisa.it](mailto:rastrelli@unisa.it) (L.R.)

<sup>2</sup> Institute of Bioscience and BioResources, National Research Council, Via Università 100, 80055, Portici (NA), Italy; [teresa.docimo@ibbr.cnr.it](mailto:teresa.docimo@ibbr.cnr.it) (T.D), [marina.tucci@ibbr.cnr.it](mailto:marina.tucci@ibbr.cnr.it) (M.T.)

<sup>3</sup> Department of Agriculture Science, Food Chemistry, Safety and Sensoromic Laboratory (FoCuSS Lab), University of Reggio Calabria, Via Salita Melissari, 89124, Reggio Calabria, Italy; [mariateresa.russo@unirc.it](mailto:mariateresa.russo@unirc.it) (M.R.) [rosa.disanzo@unirc.it](mailto:rosa.disanzo@unirc.it) (R.D.S), [sonia.carabetta@unirc.it](mailto:sonia.carabetta@unirc.it) (S.C)

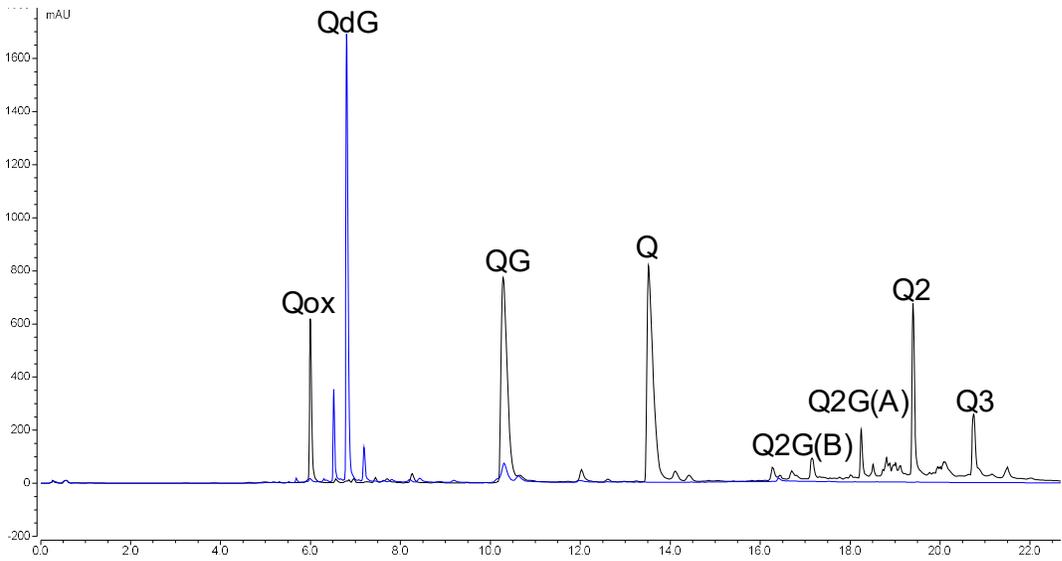
<sup>4</sup> Department of Biotechnology and Biosciences, University of Milano-Bicocca, Piazza Della Scienza 2, I-20126 Milan, Italy; [luca.campone@unimib.it](mailto:luca.campone@unimib.it)

\* Correspondence: [apiccinelli@unisa.it](mailto:apiccinelli@unisa.it) (A.L.P.), [mariateresa.russo@unirc.it](mailto:mariateresa.russo@unirc.it) (M.T.R.)

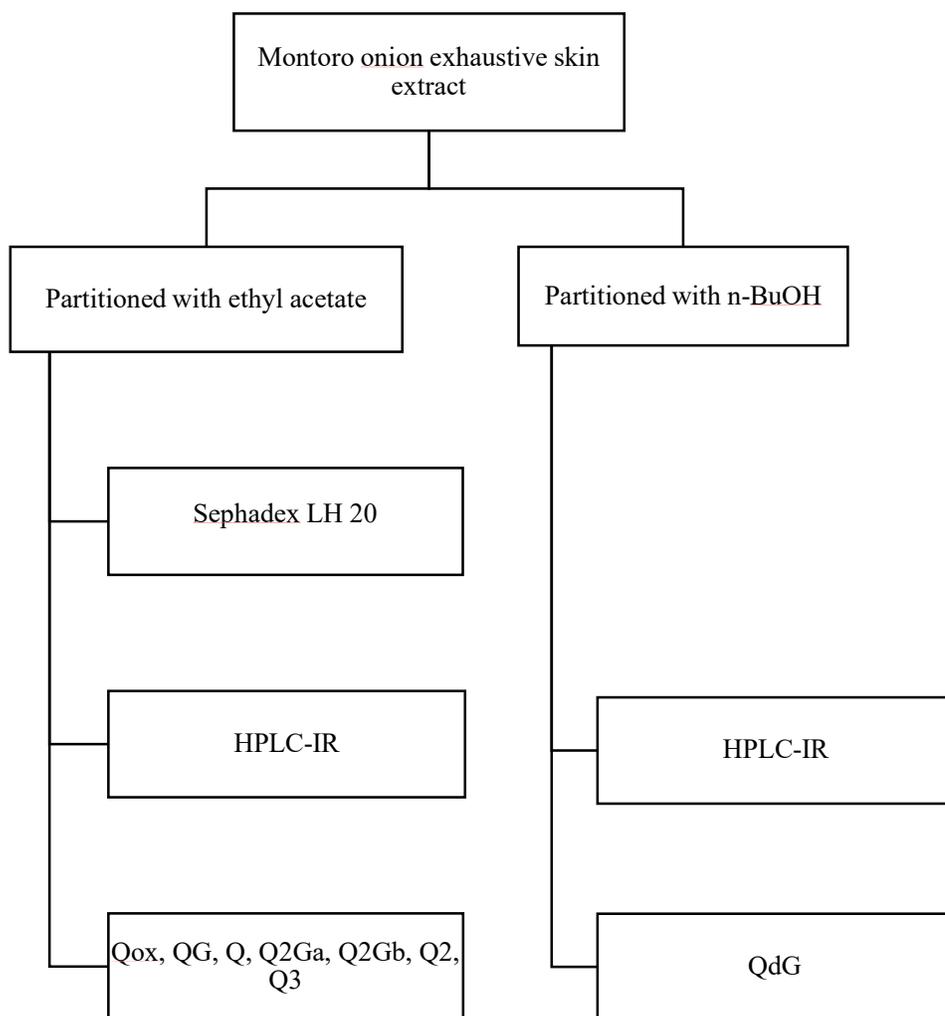
+ These authors contributed equally to this work.



**Figure S1.** Picture depicting “Rossa di Tropea” and “Ramata di Montoro” varieties and relative onion skins.

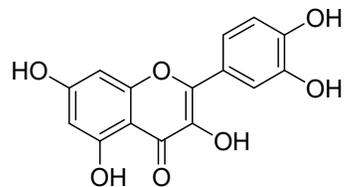


**Figure S2.** UHPLC-UV profile (365 nm) of ethyl acetate extract (black) and n-BuOH extract (blue)

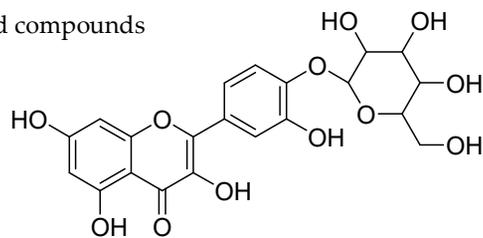


**Figure S3.** Preparative procedure for the isolation of the main components of Montoro onion exhaustive skin extract

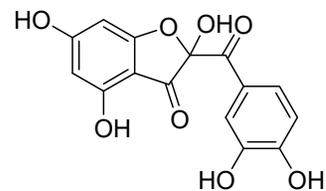
Figure S4 Chemical structures of isolated compounds



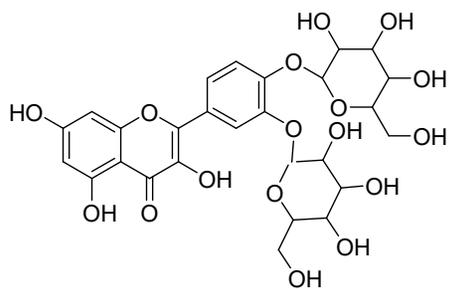
Quercetin (Q)



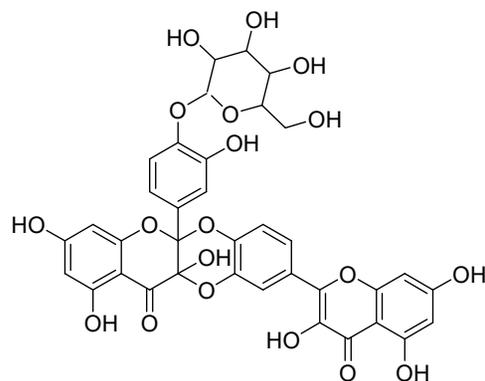
Quercetin 4' glucoside (QG)



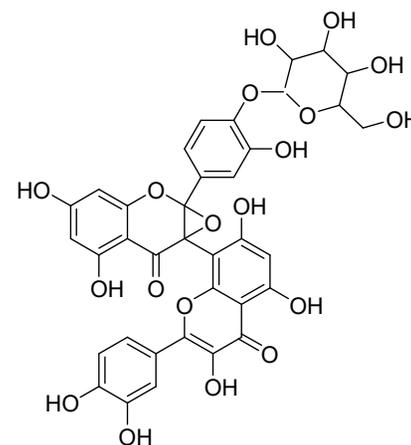
2-(3,4-Dihydroxybenzoyl)-2,4,6-trihydroxy-3(2H)-benzofuranone (Qox)



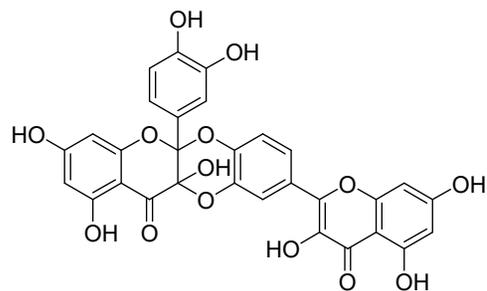
Quercetin 3, 4' glucoside (Q-dG)



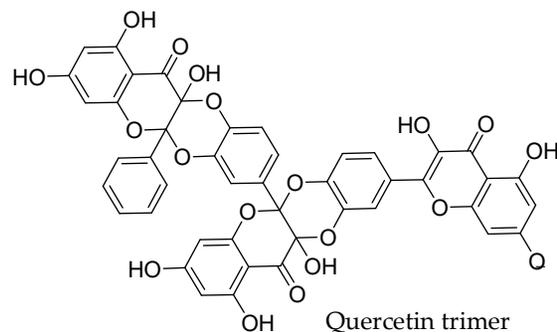
Quercetin dimer 4'-glucoside (Q2G(A))



Quercetin dimer 4'-glucoside (Q2G(B))



Quercetin dimer



Quercetin trimer