

## Supporting materials

### Overview of the antioxidant and antiinflammatory activities of selected plant compounds and their metal ions complexes

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**Table S1.** Antioxidant activity of chromones **36-41**.

Compound	DPPH IC <sub>50</sub> [μg/ml]	Fe <sup>2+</sup> ion chelating activity,	FTIC	TBA
		IC <sub>50</sub> [μg/ml]		
<b>36</b>	49.5±0.02	60.05±0.31	94.78±0.03	92.26±0.54
<b>37</b>	11.82±0.04	140.46±0.60	88.17±0.30	86.58±0.19
<b>38</b>	10.24±0.15	146.69±1.44	93.95±0.42	93.25±1.76
<b>39</b>	13.95±0.03	133.86±1.62	94.28±0.23	90.96±1.12
<b>40</b>	11.49±0.17	81.67±1.18	93.42±0.19	90.56±0.16
<b>41</b>	12.15±0.07	82.35±1.40	88.92±0.47	90.51±1.58

**Table S2.** CRAC values for morin (**28**), quercetin (**3**), fisetin (**34**), catechin (**13**), chrysin (**32**) and their complexes with Fe(II) ions.

Name of compound	CRAC value x10 <sup>6</sup> ([Ce <sup>3+</sup> ]/molx1) <sup>-1</sup>
Morin ( <b>28</b> )	666.28±9.84
Fe(II)-morin	768.01±1.92
Quercetin ( <b>3</b> )	476.20±7.59
Fe(II)-quercetin	628.13±11.36
Fisetin ( <b>34</b> )	341.04±10.02
Fe(II)-fisetin	436.16±6.01
Catechin ( <b>13</b> )	185.16±3.22

Fe(II)-catechin	188.55±13.32
Chrysin (32)	130.44±3.18
Fe(II)-chrysin	140.84±10.94

**Table S3.** IC<sub>50</sub> values for DPPH free radical scavenging, total reductive capability and ferrous ion chelating of compounds.

Compound	R	R <sub>1</sub>	DPPH (IC <sub>50</sub> ) [μg/ml]	Total reductive capability, IC <sub>50</sub> [μg/ml]	Fe <sup>2+</sup> ion chelating activity, IC <sub>50</sub> [μg/ml]
42	H	H	64.75 ±0.11	73.09±0.11	65.95±0.11
43	Br	H	107.7±0.32	108.17±0.31	105.01±0.31
44	H	4-Cl	70.14±0.10	84.21±0.29	93.94±0.29
45	Br	4-Cl	185.24±0.15	217.20±0.21	189.29±0.21
46	H	4-CH <sub>3</sub>	56.19±0.18	62.57±0.15	53.75±0.15
47	Br	4-CH <sub>3</sub>	59.76±0.21	69.17±0.20	59.45±0.20
48	H	4-OCH <sub>3</sub>	54.14±0.13	58.01±0.20	56.89±0.20
49	Br	4-OCH <sub>3</sub>	57.73±0.13	65.52±0.17	62.30±0.17
50	H	4-NO <sub>2</sub>	92.15±0.17	157.96±0.13	117.36±0.13
51	Br	4-NO <sub>2</sub>	101.41±0.13	289.02±0.13	153.87±0.13
52	H	4-F	88.29±0.21	92.59±0.13	70.76±0.13
53	Br	4-F	141.56±0.13	133.90±0.13	131.02±0.13
Standard a, b, c			46.95±0.17	50±0.15	44.11±0.15

a Std-BHT is used as standard for DPPH radical scavenging activity.

b Std-BHA is used as a standard for reductive capability

c Std-EDTA is used as a standard for Fe<sup>2+</sup> ion chelating activity.

**Table S4.** Percent of inhibition of 4H<sub>3</sub>NC and its complexes with Fe(II), Ni(II), Zn(II), Cu(II) ions.

Compounds	Inhibitions %
4H <sub>3</sub> NC	63.7
4H <sub>3</sub> NCFe	0
4H <sub>3</sub> NCNi	0
4H <sub>3</sub> NCZn	Not measured
4H <sub>3</sub> NCCu	91.2