

Supplement tables

Table S1 Total crude protein content, total mineral content, total amino acids before and after digestion, and their estimated *in vitro* digestibility (%) in seven mushroom species.

Mushroom samples	Treatmen t	Total crude protein			Total mineral content			Total amino acid content		
		Before digestion (g/100g DM)	After <i>in vitro</i> digestion (g/100g DM)	Estimated digestibility (%)	Ethanolic extracts (mg/g DM)	After <i>in vitro</i> digestion (mg/g DM)	Estimated bioaccessibility (%)	Ethanolic extracts (mg/g DM)	After <i>in vitro</i> digestion (mg/g DM)	Estimated bioaccessibility (%)
<i>V. volvacea</i>	Raw	34.82 ± 0.74 ^b	26.36 ± 0.06 ^a	24.27 ± 1.46 ^c	19.80 ± 0.01 ^a	5.09 ± 0.04 ^b	25.71 ± 0.21 ^e	74.50 ± 0.36 ^a	79.32 ± 4.71 ^b	106.47 ± 5.80 ^d
	Boiled	22.76 ± 0.70 ^c	15.28 ± 0.24 ^{ab}	32.85 ± 1.01 ^d	14.33 ± 0.04 ^a	4.16 ± 0.08 ^a	29.03 ± 0.53 ^{cd}	17.68 ± 0.15 ^c	61.87 ± 2.31 ^a	350.11 ± 15.98 ^b
<i>L. polychrous</i>	Raw	31.40 ± 0.34 ^c	19.44 ± 0.66 ^c	38.10 ± 1.44 ^b	7.22 ± 0.05 ^d	4.24 ± 0.09 ^c	58.65 ± 0.92 ^{bc}	46.72 ± 0.04 ^c	69.85 ± 1.63 ^{bc}	149.51 ± 3.63 ^d
	Boiled	24.98 ± 0.48 ^b	14.18 ± 0.47 ^b	43.22 ± 3.01 ^{bc}	6.21 ± 0.06 ^e	1.85 ± 0.18 ^d	29.77 ± 2.54 ^{cd}	22.94 ± 0.04 ^b	44.28 ± 1.65 ^b	193.02 ± 7.58 ^d
<i>L. squarrosulus</i>	Raw	34.95 ± 0.06 ^b	20.68 ± 0.37 ^c	40.83 ± 1.17 ^b	14.63 ± 0.19 ^b	5.64 ± 0.00 ^a	38.56 ± 0.50 ^d	43.62 ± 0.01 ^d	83.18 ± 5.81 ^b	190.71 ± 13.39 ^{cd}
	Boiled	25.83 ± 0.46 ^b	14.41 ± 0.12 ^b	44.22 ± 0.52 ^{bc}	9.96 ± 0.04 ^d	2.10 ± 0.16 ^d	21.08 ± 1.48 ^d	10.99 ± 0.04 ^f	40.18 ± 1.77 ^{bc}	365.78 ± 17.19 ^b
<i>P. ostreatus</i>	Raw	24.56 ± 0.95 ^d	15.25 ± 0.47 ^d	37.93 ± 0.49 ^b	14.86 ± 0.02 ^b	5.59 ± 0.08 ^a	37.58 ± 0.57 ^d	63.67 ± 0.16 ^a	87.68 ± 5.72 ^b	137.73 ± 9.34 ^d
	Boiled	18.71 ± 0.40 ^d	11.55 ± 0.10 ^c	38.22 ± 1.84 ^{cd}	12.96 ± 0.01 ^b	3.08 ± 0.06 ^b	23.76 ± 0.40 ^{cd}	15.37 ± 0.02 ^d	35.67 ± 0.99 ^c	232.15 ± 6.18 ^{cd}
<i>A. odoratus</i>	Raw	37.30 ± 0.06 ^a	22.49 ± 0.66 ^b	39.70 ± 1.87 ^b	4.24 ± 0.03 ^e	2.66 ± 0.01 ^d	62.71 ± 0.73 ^b	14.89 ± 0.04 ^f	52.97 ± 4.50 ^c	355.82 ± 29.39 ^b
	Boiled	35.27 ± 0.49 ^a	15.77 ± 0.67 ^a	55.31 ± 1.27 ^a	3.54 ± 0.01 ^f	1.92 ± 0.06 ^d	54.41 ± 1.45 ^b	14.33 ± 0.10 ^e	37.93 ± 0.90 ^c	264.68 ± 4.44 ^c
<i>L. edodes</i>	Raw	23.90 ± 0.43 ^d	14.56 ± 0.25 ^d	39.07 ± 0.02 ^b	10.58 ± 0.16 ^c	5.43 ± 0.10 ^{ab}	51.29 ± 0.20 ^c	37.85 ± 0.04 ^e	118.92 ± 12.51 ^a	314.21 ± 32.80 ^{bc}
	Boiled	20.34 ± 0.47 ^d	12.23 ± 0.10 ^c	39.87 ± 0.88 ^c	10.26 ± 0.06 ^c	3.32 ± 0.03 ^b	32.35 ± 0.50 ^c	28.08 ± 0.13 ^a	36.73 ± 0.77 ^c	130.83 ± 3.37 ^e
<i>A. auricula-judae</i>	Raw	14.70 ± 0.26 ^e	7.25 ± 0.30 ^e	50.71 ± 1.17 ^a	2.61 ± 0.01 ^f	2.61 ± 0.18 ^d	99.89 ± 6.62 ^a	6.00 ± 0.03 ^g	88.93 ± 5.43 ^b	1483.09 ± 97.88 ^a
	Boiled	11.12 ± 0.59 ^e	5.59 ± 0.06 ^d	49.68 ± 2.22 ^{ab}	2.32 ± 0.04 ^g	2.56 ± 0.11 ^c	110.40 ± 6.63 ^a	2.43 ± 0.00 ^g	24.38 ± 0.43 ^d	1002.74 ± 19.45 ^a

Values represent mean ± standard deviations (SD). Values within the same column followed by different superscript lowercase letters are significantly different at *p* < 0.05 according to Duncan test.

27 **Table S2** Total phenolic compounds (TPC), total flavonoid content (TFC), DPPH radical scavenging activity, ferric reducing antioxidant power (FRAP), and their estimated in vitro bioaccessibility (%) in seven
 28 mushroom species.

Mushroom samples	Treatment	Total phenolic compounds (TPC)			Total flavonoid content (TFC)			DPPH radical scavenging activity (DPPH)			Ferric reducing power (FRAP)		
		Initial of digestion (mg GAE/g DM)	After digestion (mg GAE/g DM)	Estimated bioaccessibility (%)	Initial of digestion (mg Quercetin/g DM)	After digestion (mg Quercetin/g DM)	Estimated bioaccessibility (%)	Initial of digestion (mM TE/g DM)	After digestion (mM TE/g DM)	Estimated bioaccessibility (%)	Initial of digestion (mM FeSO ₄ /g DM)	After digestion (mM FeSO ₄ /g DM)	Estimated bioaccessibility (%)
<i>V. volvacea</i>	Raw	3.27±0.30 ^a	11.20±0.71 ^b	342.72±17.26 ^b	5.48±0.00 ^a	6.08±0.34 ^a	110.99±5.14 ^c	170.69±4.86 ^d	221.49± 2.90 ^d	129.81±2.24 ^c	17.91±1.36 ^a	34.50±1.18 ^a	193.13±10.12 ^b
	Boiled	0.86±0.0 ^b	8.53±0.13 ^a	997.51±51.53 ^{bc}	4.03±0.30 ^a	4.70±0.37 ^a	116.79±0.20 ^b	164.10±1.74 ^b	219.67±1.49 ^b	133.87±0.51 ^b	8.37±0.18 ^b	28.62±1.06 ^a	341.70±6.64 ^a
<i>L. polychrous</i>	Raw	2.66±0.1 ^b	11.86±0.2 ^b	446.00±22.26 ^b	4.90±0.21 ^b	3.06±0.20 ^d	62.51±1.06 ^e	179.44± 2.06 ^c	262.15± 7.60 ^c	142.60 ±0.21 ^b	16.48±0.48 ^b	24.79±1.03 ^{bc}	150.37±2.49 ^{bc}
	Boiled	0.58±0.03 ^c	7.01±0.16 ^c	1206.77±56.86 ^{bc}	2.29±0.08 ^c	2.10±0.25 ^d	91.67±6.48 ^c	133.55±2.68 ^d	188.35±0.94 ^d	141.09±3.54 ^{ab}	5.74±0.73 ^{cd}	8.98±0.84 ^d	157.20±12.53 ^c
<i>L. squarrosulus</i>	Raw	2.74±0.12 ^b	13.51±0.72 ^a	494.21±45.91 ^b	2.99±0.16 ^d	2.16±0.21 ^e	72.22±2.35 ^e	211.66±6.71 ^a	285.85±4.25 ^b	135.13±3.82 ^{bc}	18.91±0.68 ^a	26.25±0.03 ^b	140.35±2.35 ^c
	Boiled	0.67±0.16 ^c	7.65±0.46 ^b	1189.59±222.92 ^{bc}	3.19±0.00 ^b	2.89±0.11 ^c	90.51±3.00 ^c	116.76±3.90 ^e	170.35±7.00 ^e	143.37±5.25 ^a	8.33±0.77 ^b	10.55±0.38 ^c	127.32±10.84 ^d
<i>P. ostreatus</i>	Raw	1.65±0.07 ^c	9.89±0.34 ^c	600.20±37.92 ^b	4.12±0.11 ^c	5.49±0.13 ^b	133.56±0.18 ^b	188.39± 4.18 ^b	291.22±3.37 ^b	154.64±3.69 ^a	10.67±0.44 ^d	16.73±0.27 ^d	157.04±6.55 ^{bc}
	Boiled	0.32±0.03 ^d	4.87±0.38 ^e	1518.24±176.11 ^b	2.53±0.14 ^c	1.70±0.21 ^d	66.97±3.86 ^d	136.26±0.48 ^{cd}	201.83±3.82 ^c	149.55±0.36 ^a	4.90±0.36 ^e	8.54±0.29 ^d	174.54±7.68 ^{bc}
<i>A. odoratus</i>	Raw	1.28±0.17 ^d	5.20±0.15 ^e	410.80±58.42 ^b	1.06±0.18 ^f	1.19±0.00 ^f	114.20±15.95 ^c	115.29±2.52 ^e	148.32±4.52 ^e	128.72±5.45 ^c	12.57±0.53 ^c	22.61±0.49 ^c	182.14±4.83 ^{bc}
	Boiled	1.02±0.06 ^a	4.41±0.09 ^f	436.27±32.16 ^c	3.57±0.08 ^b	4.19±0.25 ^a	117.57±7.92 ^b	106.55±3.23 ^f	153.46±3.74 ^f	144.07 ± 2.77 ^a	9.84±0.44 ^a	19.67±0.84 ^b	200.26±12.60 ^b
<i>L. edodes</i>	Raw	0.77±0.16 ^e	8.39±0.57 ^d	1139.36±201.62 ^a	2.57±0.06 ^e	4.34±0.15 ^c	169.01 ± 1.45 ^a	207.96±8.31 ^a	327.85±14.40 ^a	158.58±6.49 ^a	10.06±0.37 ^d	32.11±5.36 ^a	318.03±43.5 ^a
	Boiled	0.37±0.03 ^d	5.32±0.26 ^d	1406.20 ± 74.70 ^{bc}	2.21±0.04 ^c	1.57±0.08 ^d	71.05±2.36 ^d	139.20±3.25 ^c	207.32±2.94 ^c	148.99±3.80 ^a	6.20±0.49 ^c	11.48±0.36 ^c	186.12±15.59 ^{bc}
<i>A. auricula-judae</i>	Raw	0.38±0.11 ^f	5.13±0.31 ^e	1451.48± 378.26 ^a	3.09±0.09 ^d	2.90±0.11 ^d	94.18±5.18 ^d	163.70±1.62 ^d	256.22±11.41 ^c	156.53 ± 7.04 ^a	8.26±0.36 ^e	13.23±1.14 ^e	160.83±19.60 ^{bc}
	Boiled	0.16±0.06 ^e	5.05±0.20 ^{de}	3520.55±1140.72 ^a	2.60±0.23 ^c	3.52±0.17 ^b	136.75±15.36 ^a	179.65±3.58 ^a	257.72±7.75 ^a	143.52 ± 5.84 ^a	5.40±0.13 ^{de}	9.38±1.20 ^d	173.61±18.70 ^{bc}

Values represent mean ± standard deviations (SD). Values within the same column followed by different superscript lowercase letters are significantly different at $p < 0.05$ according to Duncan test.

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46 **Table S3** Essential amino acid content of raw and boiled mushroom extracts and digested liquids (mg/g dry basis).

Mushrooms	Histidine	Isoleucine	Leucine	Lysine	Methionine	Phenylalanine	Threonine	Tryptophan	Valine	Total essential amino acid (TEAA)
Raw extracts										
<i>V. volvacea</i>	0.57±0.01 ^b	4.86±0.01 ^a	<0.00 ^a	2.98±0.06 ^a	0.76±0.01 ^b	0.00±0.00 ^d	3.87±0.09 ^a	NR	5.25±0.04 ^a	18.27±0.10 ^a
<i>L. polychrous</i>	0.51±0.01 ^c	2.44±0.00 ^c	<0.00 ^a	2.02±0.02 ^b	0.18±0.00 ^c	1.46±0.02 ^a	1.99±0.04 ^d	NR	3.40±0.00 ^c	11.99±0.08 ^c
<i>L. squarrosulus</i>	0.29±0.01 ^e	1.88±0.00 ^e	<0.00 ^a	1.79±0.01 ^c	0.10±0.00 ^d	1.48±0.01 ^a	2.05±0.00 ^d	NR	3.11±0.00 ^d	10.70±0.01 ^e
<i>P. ostreatus</i>	0.68±0.00 ^a	4.70±0.01 ^b	<0.00 ^a	2.98±0.05 ^a	0.90±0.02 ^a	0.00±0.00 ^d	3.21±0.04 ^b	NR	5.01±0.01 ^b	17.46±0.01 ^b
<i>A. odoratus</i>	0.14±0.00 ^f	0.45±0.00 ^f	<0.00 ^a	0.23±0.01 ^e	0.18±0.00 ^c	0.28±0.01 ^c	0.35±0.00 ^e	NR	0.61±0.00 ^f	2.22±0.01 ^f
<i>L. edodes</i>	0.42±0.01 ^d	2.36±0.00 ^d	<0.00 ^a	1.64±0.01 ^d	0.11±0.01 ^d	1.23±0.01 ^b	2.36±0.03 ^c	NR	3.00±0.01 ^e	11.10±0.04 ^d
<i>A. auricula-judae</i>	0.09±0.00 ^g	0.13±0.01 ^g	<0.00 ^a	0.26±0.00 ^e	0.03±0.00 ^e	0.29±0.01 ^c	0.15±0.01 ^f	NR	0.28±0.00 ^g	1.22±0.01 ^g
Boiled extracts										
<i>V. volvacea</i>	0.12±0.01 ^d	1.81±0.00 ^a	<0.00 ^a	0.50±0.00 ^d	0.06±0.00 ^d	0.20±0.00 ^e	1.02±0.02 ^b	NR	2.50±0.02 ^a	6.19±0.01 ^c
<i>L. polychrous</i>	0.21±0.01 ^b	1.65±0.00 ^b	<0.00 ^a	1.19±0.01 ^b	0.29±0.00 ^a	1.10±0.05 ^b	0.72±0.02 ^c	NR	2.03±0.04 ^b	7.17±0.00 ^b
<i>L. squarrosulus</i>	0.07±0.00 ^e	0.83±0.01 ^e	<0.00 ^a	0.44±0.00 ^e	0.06±0.00 ^d	0.62±0.00 ^c	0.43±0.01 ^e	NR	1.03±0.00 ^d	3.48±0.01 ^e
<i>P. ostreatus</i>	0.08±0.00 ^e	1.18±0.01 ^d	<0.00 ^a	0.64±0.01 ^c	0.26±0.00 ^b	1.16±0.00 ^a	0.52±0.00 ^d	NR	1.29±0.01 ^c	5.12±0.01 ^d
<i>A. odoratus</i>	0.14±0.01 ^c	0.44±0.00 ^f	<0.00 ^a	0.29±0.00 ^f	0.11±0.00 ^c	0.28±0.00 ^d	0.31±0.00 ^f	NR	0.57±0.01 ^e	2.13±0.01 ^f
<i>L. edodes</i>	0.23±0.00 ^a	1.34±0.01 ^c	<0.00 ^a	1.42±0.01 ^a	0.11±0.01 ^c	0.65±0.01 ^c	1.51±0.01 ^a	NR	2.02±0.01 ^b	7.27±0.02 ^a
<i>A. auricula-judae</i>	0.00±0.00 ^f	0.04±0.01 ^g	<0.00 ^a	0.12±0.00 ^g	0.01±0.00 ^e	0.02±0.00 ^f	0.00±0.00 ^g	NR	0.07±0.01 ^f	0.25±0.01 ^g
Raw digested liquids										
<i>V. volvacea</i>	0.54±0.04 ^a	2.48±0.05 ^c	<0.00 ^a	2.20±0.01 ^c	0.50±0.11 ^d	0.98±0.10 ^c	4.47±0.11 ^b	NR	3.20±0.04 ^b	14.35±0.05 ^c
<i>L. polychrous</i>	0.55±0.06 ^a	2.99±0.11 ^{ab}	<0.00 ^a	3.38±0.27 ^b	1.79±0.04 ^b	3.12±0.11 ^a	4.10±0.06 ^{bc}	NR	3.64±0.14 ^{ab}	19.55±0.10 ^b
<i>L. squarrosulus</i>	0.57±0.21 ^a	2.99±0.10 ^{ab}	<0.00 ^a	3.85±0.45 ^{ab}	1.68±0.06 ^b	3.12±0.05 ^a	4.76±0.70 ^b	NR	3.63±0.16 ^{ab}	20.59±1.72 ^{ab}
<i>P. ostreatus</i>	0.37±0.24 ^{ab}	2.15±0.06 ^c	<0.00 ^a	2.19±0.35 ^c	1.28±0.03 ^c	2.35±0.01 ^b	3.36±0.57 ^c	NR	2.46±0.04 ^c	14.15±1.27 ^c
<i>A. odoratus</i>	0.06±0.01 ^b	1.08±0.00 ^d	<0.00 ^a	1.49±0.11 ^c	0.82±0.00 ^d	1.14±0.04 ^c	2.08±0.22 ^d	NR	1.36±0.02 ^d	8.01±0.33 ^d
<i>L. edodes</i>	0.13±0.08 ^b	3.17±0.40 ^a	<0.00 ^a	4.63±0.93 ^a	2.26±0.29 ^a	2.23±0.02 ^b	6.31±0.66 ^a	NR	4.15±0.54 ^a	22.85±0.36 ^a
<i>A. auricula-judae</i>	0.12±0.01 ^b	2.60±0.29 ^{bc}	<0.00 ^a	3.54±0.16 ^b	2.02±0.23 ^{ab}	2.52±0.31 ^b	4.87±0.27 ^b	NR	3.36±0.29 ^b	19.02±1.53 ^b
Boiled digested liquids										
<i>V. volvacea</i>	0.34±0.04 ^a	1.51±0.02 ^a	<0.00 ^a	2.14±0.04 ^b	0.62±0.00 ^c	1.56±0.01 ^d	3.66±0.04 ^a	NR	1.99±0.01 ^a	11.81±0.01 ^a
<i>L. polychrous</i>	0.17±0.07 ^b	1.13±0.01 ^b	<0.00 ^a	2.85±0.06 ^a	1.23±0.13 ^a	2.20±0.01 ^a	1.76±0.08 ^c	NR	1.35±0.01 ^b	10.68±0.23 ^b
<i>L. squarrosulus</i>	0.15±0.06 ^b	0.92±0.01 ^c	<0.00 ^a	2.37±0.02 ^b	0.95±0.06 ^b	1.99±0.06 ^b	1.73±0.11 ^c	NR	1.10±0.02 ^d	9.18±0.06 ^c
<i>P. ostreatus</i>	0.10±0.06 ^{bc}	0.88±0.03 ^c	<0.00 ^a	2.22±0.30 ^b	0.83±0.06 ^b	1.69±0.02 ^c	1.74±0.03 ^c	NR	1.05±0.00 ^e	8.51±0.42 ^d
<i>A. odoratus</i>	0.02±0.00 ^c	0.51±0.02 ^e	<0.00 ^a	0.91±0.02 ^d	0.48±0.03 ^{cd}	0.87±0.02 ^g	0.97±0.18 ^e	NR	0.63±0.01 ^g	4.37±0.16 ^f
<i>L. edodes</i>	0.20±0.04 ^b	0.93±0.01 ^c	<0.00 ^a	1.61±0.02 ^c	0.55±0.04 ^{cd}	1.25±0.05 ^f	2.35±0.06 ^b	NR	1.18±0.02 ^c	8.05±0.01 ^d
<i>A. auricula-judae</i>	0.00±0.00 ^c	0.68±0.03 ^d	<0.00 ^a	1.07±0.09 ^d	0.46±0.01 ^d	1.32±0.00 ^e	1.28±0.21 ^d	NR	0.83±0.01 ^f	5.63±0.13 ^e

47 NR, no reported.

48 Values represent mean ± standard deviations (SD). Values within the same column followed by different superscript lowercase letters are significantly different at $p < 0.05$ according to Duncan test.

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Table S4 Non-essential and conditionally essential amino acid content of raw and boiled mushroom extracts and digested liquids (mg/g dw).

Mushrooms	Non-essential amino acid					Conditionally amino acids					
	Alanine	Asparagine	Aspartic acid	Glutamic acid	Glutamine	Serine	Arginine	Cysteine	Glycine	Proline	Tyrosine
Raw extracts											
<i>V. volvacea</i>	9.72±0.02 ^a	<0.00 ^a	3.37±0.01 ^a	18.71±0.13 ^a	2.70±0.01 ^b	6.11±0.01 ^b	1.13±0.01 ^a	<0.00 ^a	4.89±0.12 ^a	3.87±0.01 ^a	5.77±0.01 ^b
<i>L. polychrous</i>	1.09±0.00 ^e	<0.00 ^a	2.45±0.04 ^b	14.60±0.11 ^c	1.83±0.01 ^c	6.05±0.03 ^b	0.23±0.00 ^d	<0.00 ^a	2.33±0.01 ^c	1.00±0.01 ^c	5.17±0.02 ^c
<i>L. squarrosulus</i>	1.17±0.04 ^d	<0.00 ^a	2.23±0.04 ^c	15.31±0.11 ^b	1.60±0.01 ^d	4.78±0.03 ^c	0.13±0.01 ^e	<0.00 ^a	2.02±0.05 ^d	0.65±0.01 ^d	5.07±0.01 ^d
<i>P. ostreatus</i>	4.86±0.06 ^b	<0.00 ^a	2.48±0.01 ^b	14.27±0.14 ^d	2.74±0.01 ^a	6.49±0.02 ^a	0.25±0.01 ^d	<0.00 ^a	4.81±0.01 ^a	3.34±0.03 ^b	6.99±0.01 ^a
<i>A. odoratus</i>	1.02±0.02 ^f	<0.00 ^a	0.78±0.01 ^e	7.26±0.01 ^f	0.20±0.01 ^g	0.77±0.01 ^e	0.83±0.07 ^c	<0.00 ^a	0.75±0.00 ^e	0.22±0.00 ^e	0.86±0.01 ^f
<i>L. edodes</i>	2.25±0.01 ^c	<0.00 ^a	0.99±0.01 ^d	10.52±0.01 ^e	1.50±0.03 ^e	3.75±0.06 ^d	0.95±0.01 ^b	<0.00 ^a	3.01±0.06 ^b	1.02±0.01 ^c	2.78±0.01 ^e
<i>A. auricula-judae</i>	0.06±0.00 ^g	<0.00 ^a	0.21±0.01 ^f	1.59±0.01 ^g	0.24±0.00 ^f	0.67±0.01 ^f	0.82±0.06 ^c	<0.00 ^a	0.20±0.01 ^f	0.12±0.01 ^f	0.87±0.01 ^f
Boiled extracts											
<i>V. volvacea</i>	2.49±0.02 ^a	<0.00 ^a	0.84±0.02 ^c	1.61±0.03 ^d	0.48±0.01 ^d	1.68±0.04 ^e	0.62±0.00 ^c	<0.00 ^a	1.48±0.08 ^b	1.72±0.04 ^a	0.59±0.00 ^f
<i>L. polychrous</i> Berk	1.30±0.01 ^b	<0.00 ^a	1.34±0.03 ^b	1.95±0.00 ^c	1.11±0.01 ^b	4.83±0.01 ^a	0.03±0.00 ^e	<0.00 ^a	1.47±0.00 ^b	0.93±0.00 ^b	2.83±0.08 ^a
<i>L. squarrosulus</i>	0.49±0.03 ^f	<0.00 ^a	0.48±0.01 ^f	2.05±0.00 ^c	0.42±0.01 ^e	1.85±0.02 ^d	0.02±0.00 ^e	<0.00 ^a	0.48±0.01 ^e	0.31±0.01 ^e	1.42±0.01 ^d
<i>P. ostreatus</i>	1.25±0.04 ^c	<0.00 ^a	0.53±0.00 ^e	1.34±0.01 ^e	0.60±0.01 ^c	2.41±0.04 ^c	0.31±0.00 ^d	<0.00 ^a	0.78±0.06 ^c	0.65±0.02 ^c	2.41±0.01 ^b
<i>A. odoratus</i>	0.86±0.00 ^d	<0.00 ^a	0.76±0.01 ^d	7.15±0.08 ^b	0.17±0.01 ^f	0.79±0.00 ^f	0.84±0.01 ^b	<0.00 ^a	0.59±0.02 ^d	0.21±0.00 ^f	0.84±0.00 ^e
<i>L. edodes</i>	0.55±0.00 ^e	<0.00 ^a	1.46±0.04 ^a	7.83±0.07 ^a	1.27±0.02 ^a	3.85±0.01 ^b	1.37±0.03 ^a	<0.00 ^a	2.62±0.01 ^a	0.37±0.00 ^d	1.52±0.01 ^c
<i>A. auricula-judae</i>	0.09±0.01 ^g	<0.00 ^a	0.15±0.00 ^g	0.42±0.01 ^f	0.11±0.00 ^g	0.51±0.01 ^g	0.63±0.01 ^c	<0.00 ^a	0.05±0.00 ^f	0.04±0.00 ^g	0.20±0.00 ^g
Raw digested											
<i>V. volvacea</i>	16.53±0.88 ^a	<0.00 ^a	4.03±0.69 ^c	8.89±0.50 ^d	1.85±0.27 ^{bc}	11.81±0.23 ^{bc}	4.72±0.11 ^b	<0.00 ^a	11.28±1.61 ^a	2.59±0.14 ^a	3.29±0.33 ^d
<i>L. polychrous</i>	10.07±0.42 ^{bc}	<0.00 ^a	4.47±0.33 ^{bc}	7.67±0.07 ^d	3.12±0.25 ^{ab}	7.81±0.31 ^d	2.54±0.04 ^d	<0.00 ^a	6.21±0.23 ^b	2.02±0.05 ^b	6.39±0.07 ^{bc}
<i>L. squarrosulus</i>	7.48±0.33 ^c	<0.00 ^a	3.48±0.62 ^c	12.54±1.55 ^c	3.55±0.40 ^a	10.17±0.06 ^{cd}	6.24±0.22 ^a	<0.00 ^a	10.51±0.81 ^a	1.86±0.06 ^b	6.81±0.17 ^b
<i>P. ostreatus</i>	9.39±1.56 ^c	<0.00 ^a	3.45±1.29 ^c	35.29±0.78 ^a	2.00±0.30 ^{abc}	5.52±0.13 ^e	6.78±0.22 ^a	<0.00 ^a	4.36±0.00 ^b	1.38±0.06 ^b	5.39±0.12 ^c
<i>A. odoratus</i>	7.18±0.50 ^c	<0.00 ^a	3.07±0.03 ^c	15.30±1.15 ^c	1.37±0.14 ^c	6.72±1.25 ^e	3.54±0.13 ^{cd}	<0.00 ^a	3.84±0.99 ^b	0.61±0.01 ^c	3.36±0.01 ^d
<i>L. edodes</i>	16.87±2.64 ^a	<0.00 ^a	6.22±1.15 ^{ab}	19.30±2.45 ^b	3.56±1.63 ^a	19.33±2.84 ^a	7.06±1.07 ^a	<0.00 ^a	12.96±2.31 ^a	1.96±0.32 ^b	8.84±1.00 ^a
<i>A. auricula-judae</i>	12.88±0.49 ^b	<0.00 ^a	7.18±0.47 ^a	9.18±0.51 ^d	3.16±0.08 ^{ab}	14.04±0.72 ^b	4.55±0.04 ^{bc}	<0.00 ^a	10.15±0.94 ^a	1.90±0.15 ^b	6.90±0.57 ^b
Boiled digested											
<i>V. volvacea</i>	12.46±0.54 ^a	<0.00 ^a	3.13±0.17 ^a	6.92±0.75 ^b	1.87±0.01 ^c	7.67±0.01 ^a	7.17±0.52 ^b	<0.00 ^a	5.75±0.39 ^a	1.46±0.10 ^a	3.66±0.05 ^d
<i>L. polychrous</i>	6.18±0.13 ^b	<0.00 ^a	2.70±0.10 ^{ab}	2.43±0.27 ^d	2.65±0.01 ^a	3.67±0.44 ^b	8.78±1.36 ^a	<0.00 ^a	2.14±0.32 ^c	0.24±0.04 ^{cd}	4.86±0.21 ^a
<i>L. squarrosulus</i>	4.42±0.25 ^{cd}	<0.00 ^a	2.55±0.44 ^{ab}	3.77±0.21 ^c	2.19±0.00 ^b	3.64±0.10 ^b	7.38±0.64 ^{ab}	<0.00 ^a	2.36±0.52 ^c	0.20±0.00 ^{de}	4.52±0.15 ^b
<i>P. ostreatus</i>	5.09±0.49 ^c	<0.00 ^a	1.54±0.37 ^c	1.97±0.29 ^d	1.78±0.06 ^c	2.75±0.82 ^{bc}	7.04±0.52 ^b	<0.00 ^a	2.57±0.40 ^c	0.31±0.03 ^{bc}	4.13±0.09 ^c
<i>A. odoratus</i>	3.16±0.15 ^{ef}	<0.00 ^a	0.76±0.28 ^d	18.12±0.09 ^a	0.82±0.03 ^e	2.12±0.04 ^c	3.89±0.02 ^c	<0.00 ^a	2.05±0.29 ^c	0.12±0.01 ^e	2.54±0.03 ^e
<i>L. edodes</i>	3.70±0.35 ^{de}	<0.00 ^a	2.17±0.16 ^b	4.57±0.30 ^c	1.47±0.07 ^d	3.77±0.88 ^b	5.00±0.02 ^c	<0.00 ^a	4.01±0.40 ^b	0.35±0.01 ^b	3.68±0.11 ^d

<i>A. auricula-judae</i>	2.71±0.05 ^f	<0.00 ^a	1.10±0.11 ^{cd}	1.63±0.07 ^d	0.90±0.11 ^e	1.81±0.02 ^c	5.45±0.17 ^c	<0.00 ^a	1.14±0.29 ^d	0.00±0.00 ^f	4.05±0.05 ^c
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59 Values represent mean ± standard deviations (SD). Values within the same column followed by different superscript lowercase letters are significantly different at $p < 0.05$.

60 **Table S5** Macro and trace mineral constituents of raw and boiled mushroom extracts and digested liquids (mg/g dw).

Mushrooms	Macro mineral constituents (mg/g dw)				Trace mineral constituents (µg/g dw)				Total mineral content (mg/g dw)
	Potassium (K)	Magnesium (Mg)	Calcium (Ca)	Manganese (Mn)	Iron (Fe)	Zinc (Zn)	Copper (Cu)	Selenium (Se)	
Raw extracts									
<i>V. volvacea</i>	18.87±0.01 ^a	0.64±0.01 ^c	0.21±0.01 ^c	5.69±0.13 ^d	29.94±1.58 ^c	38.94±1.99 ^a	13.36±0.09 ^a	1.45±0.16 ^c	19.80±0.01 ^a
<i>L. polychrous</i>	6.60±0.04 ^e	0.44±0.01 ^d	0.14±0.00 ^d	3.41±0.02 ^f	16.38±0.35 ^d	23.91±0.74 ^d	4.35±0.16 ^d	<0.00 ^d	7.22±0.05 ^e
<i>L. squarrosulus</i>	13.59±0.18 ^c	0.83±0.01 ^a	0.11±0.00 ^g	8.83±0.18 ^b	53.76±2.64 ^b	29.49±0.35 ^c	5.67±0.05 ^b	<0.00 ^d	14.63±0.19 ^c
<i>P. ostreatus</i>	13.99±0.03 ^b	0.67±0.01 ^b	0.12±0.00 ^f	4.84±0.05 ^e	31.95±0.48 ^c	37.32±0.01 ^a	4.26±0.01 ^d	2.68±0.02 ^a	14.86±0.02 ^b
<i>A. odoratus</i>	3.39±0.03 ^f	0.26±0.01 ^f	0.45±0.00 ^b	17.17±0.14 ^a	104.66±2.14 ^a	12.40±0.08 ^e	4.26±0.23 ^d	<0.00 ^d	4.24±0.03 ^f
<i>L. edodes</i>	10.06±0.16 ^d	0.33±0.00 ^e	0.13±0.00 ^e	7.08±0.01 ^c	13.48±1.47 ^d	34.66±1.27 ^b	4.90±0.25 ^c	1.92±0.04 ^b	10.58±0.16 ^d
<i>A. auricula-judae</i>	1.30±0.01 ^g	0.45±0.00 ^d	0.85±0.00 ^a	1.70±0.02 ^g	9.17±0.05 ^e	2.81±0.02 ^f	0.67±0.01 ^e	<0.00 ^d	2.61±0.01 ^g
Boiled extracts									
<i>V. volvacea</i>	13.64±0.02 ^a	0.49±0.01 ^c	0.15±0.00 ^c	3.75±0.23 ^d	22.68±1.12 ^d	23.52±0.03 ^b	10.12±0.23 ^a	0.76±0.05 ^c	14.33±0.04 ^a
<i>L. polychrous</i>	5.68±0.06 ^e	0.36±0.01 ^d	0.13±0.00 ^d	2.66±0.37 ^e	16.43±0.09 ^e	16.78±0.72 ^c	4.21±0.15 ^{bc}	<0.00 ^c	6.21±0.06 ^e
<i>L. squarrosulus</i>	9.09±0.02 ^d	0.72±0.01 ^a	0.08±0.00 ^f	7.19±0.27 ^b	40.72±0.45 ^b	17.38±0.23 ^c	3.94±0.14 ^c	<0.00 ^c	9.96±0.04 ^d
<i>P. ostreatus</i>	12.22±0.01 ^b	0.55±0.00 ^b	0.13±0.01 ^d	4.10±0.38 ^d	28.30±1.02 ^c	29.48±0.59 ^a	4.59±0.08 ^b	2.16±0.06 ^a	12.96±0.01 ^b
<i>A. odoratus</i>	2.84±0.01 ^f	0.24±0.01 ^f	0.35±0.01 ^b	11.56±0.05 ^a	87.01±1.15 ^a	10.67±0.40 ^d	3.13±0.32 ^d	0.00±0.00 ^c	3.54±0.01 ^f
<i>L. edodes</i>	9.80±0.06 ^c	0.31±0.01 ^e	0.11±0.01 ^e	4.69±0.13 ^c	6.21±0.23 ^f	29.43±0.47 ^a	3.50±0.13 ^d	1.06±0.06 ^b	10.26±0.06 ^c
<i>A. auricula-judae</i>	1.32±0.04 ^g	0.36±0.00 ^d	0.63±0.00 ^a	0.34±0.04 ^f	3.70±0.04 ^g	2.30±0.09 ^e	0.39±0.01 ^e	<0.00 ^c	2.32±0.04 ^g
Raw digested liquids									
<i>V. volvacea</i>	5.01±0.05 ^b	0.07±0.00 ^d	0.02±0.00 ^{bc}	<0.00 ^a	<0.00 ^a	1.68±0.11 ^b	0.98±0.08 ^a	<0.00 ^a	5.09±0.04 ^b
<i>L. polychrous</i>	4.12±0.08 ^c	0.11±0.01 ^b	0.01±0.00 ^c	<0.00 ^a	<0.00 ^a	0.37±0.06 ^c	0.76±0.11 ^b	<0.00 ^a	4.24±0.09 ^c
<i>L. squarrosulus</i>	5.50±0.01 ^a	0.13±0.01 ^a	0.01±0.00 ^c	<0.00 ^a	<0.00 ^a	<0.00 ^d	0.55±0.04 ^{cd}	<0.00 ^a	5.64±0.00 ^a
<i>P. ostreatus</i>	5.43±0.08 ^a	0.11±0.00 ^b	0.05±0.01 ^a	<0.00 ^a	<0.00 ^a	0.38±0.00 ^c	0.68±0.08 ^{bc}	<0.00 ^a	5.59±0.08 ^a
<i>A. odoratus</i>	2.58±0.00 ^d	0.06±0.01 ^e	0.02±0.01 ^{bc}	<0.00 ^a	<0.00 ^a	0.00±0.00 ^d	0.78±0.15 ^b	<0.00 ^a	2.66±0.01 ^d
<i>L. edodes</i>	5.32±0.09 ^a	0.09±0.01 ^c	0.03±0.01 ^b	<0.00 ^a	<0.00 ^a	3.37±0.16 ^a	0.37±0.04 ^{de}	<0.00 ^a	5.43±0.10 ^a
<i>A. auricula-judae</i>	2.49±0.18 ^d	0.11±0.01 ^b	0.02±0.00 ^{bc}	<0.00 ^a	<0.00 ^a	0.00±0.00 ^d	0.23±0.01 ^e	<0.00 ^a	2.61±0.18 ^d
Boiled digested liquids									
<i>V. volvacea</i>	4.11±0.09 ^a	0.05±0.00 ^c	<0.00 ^b	<0.00 ^a	<0.00 ^a	1.45±0.16 ^a	1.30±0.11 ^a	<0.00 ^a	4.16±0.08 ^a
<i>L. polychrous</i>	1.80±0.18 ^d	0.05±0.00 ^c	<0.00 ^b	<0.00 ^a	<0.00 ^a	0.20±0.02 ^d	0.40±0.02 ^c	<0.00 ^a	1.85±0.18 ^d
<i>L. squarrosulus</i>	2.03±0.16 ^d	0.07±0.00 ^a	<0.00 ^b	<0.00 ^a	<0.00 ^a	0.01±0.01 ^e	0.32±0.07 ^c	<0.00 ^a	2.10±0.16 ^d
<i>P. ostreatus</i>	3.02±0.07 ^b	0.06±0.01 ^{bc}	<0.00 ^b	<0.00 ^a	<0.00 ^a	0.38±0.07 ^c	0.35±0.07 ^c	<0.00 ^a	3.08±0.06 ^b
<i>A. odoratus</i>	1.88±0.06 ^d	0.05±0.01 ^c	<0.00 ^b	<0.00 ^a	<0.00 ^a	0.00±0.00 ^e	0.59±0.09 ^b	<0.00 ^a	1.92±0.06 ^d
<i>L. edodes</i>	3.27±0.04 ^b	0.06±0.01 ^{bc}	<0.00 ^b	<0.00 ^a	<0.00 ^a	0.66±0.00 ^b	0.50±0.06 ^{bc}	<0.00 ^a	3.32±0.03 ^b
<i>A. auricula-judae</i>	2.49±0.09 ^c	0.07±0.01 ^{ab}	0.01±0.00 ^a	<0.00 ^a	<0.00 ^a	0.00±0.00 ^e	0.04±0.03 ^d	<0.00 ^a	2.56±0.11 ^c

61 Values represent mean ± standard deviations (SD). Values within the same column followed by different superscript lowercase letters are significantly different at $p < 0.05$.

