

**Table S1** The 6-gingerol, 10-gingerol, 6-shogaol and 8-shogaol content in RZ and RZPPs

	6-gingerol (mg·g <sup>-1</sup> )	10-gingerol (mg·g <sup>-1</sup> )	6-shogaol (mg·g <sup>-1</sup> )	8-shogaol (mg·g <sup>-1</sup> )
RZ	11.57±4.230	1.533±1.397	0.214±0.233	0.830±0.908
BG	7.59±1.798	1.918±0.813	0.341±0.807	2.042±3.062
GC	1.42±0.689	0.476±0.242	0.621±1.023	3.115±5.212

**Table S2** DQMs between RZ and BG

No.	Name	Up-Down
1	Nudifloramide	Down
2	L-homoarginine	Down
3	[6]-gingerol	Up
4	(+)-carvone	Down
5	Phenamil	Up
6	Delsoline	Up
7	Glufosinate	Down
8	3-propyl-2-methylpyrazine	Down
9	Tyr-Met-Lys	Down
10	Leukotriene e4	Up
11	4-hydroxy-3-methoxybenzyl alcohol	Up
12	O-anisidine	Down
13	4-methyl-1h-pyrazole	Down
14	2-(2',3',4'-trihydroxybutyl)quinoxaline	Down
15	2-(4-amino-1-piperidinyl)ethanol	Down
16	Pelletierine	Down
17	Glycodeoxycholic acid	Up
18	Leucine	Up
19	3-fluorophenmetrazine	Down
20	Penicillic acid	Down
21	Methanone, [1-(5-fluoropentyl)-2-methyl-1h-indol-3-yl](2,2,3,3-tetramethylcyclopropyl)-	Up
22	Spiroxamine	Down
23	2-(1',2',3',4'-tetrahydroxybutyl)quinoxaline	Down
24	Norharmane	Down
25	6-methoxy-m-toluidine	Down
26	3-ethylphenol	Down
27	Acetylcholine	Down
28	4-(methylnitrosamino)-1-(3-pyridyl)-1-butanol	Down
29	Oxymorphone	Down
30	Oleoyl-l-carnitine	Up
31	5,13,15-trihydroxy-9-methyl-10-oxabicyclo[10.4.0]hexadeca-1(12),13,15-triene-3,11-dione	Down
32	Phyllanthin	Up
33	Dimebon	Down
34	Trans-cinnamic acid	Down
35	N-(4-hydroxyphenyl)glycine	Down
36	9,12-epoxy-1h-diindolo[1,2,3-fg:3',2',1'-kl]pyrrolo[3,4-i][1,6]benzodiazocine-10-carboxylic acid, 2,3,9,10,11,12-hexahydro-10-hydroxy-9-methyl-1-oxo-, methyl ester, (9s,10r,12r)-	Down
37	Niacinamide	Up
38	2-chloro-2',6'-diethylacetanilide	Down
39	Triptophenolide	Down
40	2,6-di-tert-butyl-4-hydroxymethylphenol	Up

Up: DQMs up-regulated; Down: DQMs down-regulated.

**Table S3** DQMs between BG and GC

No.	Name	Up-Down
1	1-hexadecanoyl-2-octadecadienoyl-sn-glycero-3-phosphocholine	Up
2	D-turanose	Up
3	Nudifloramide	Down
4	2-oleoyl-1-palmitoyl-sn-glycero-3-phosphocholine	Up

5	Acetohexamide	Up
6	1-heptadecanoyl-sn-glycero-3-phosphocholine	Up
7	6-methoxy-m-toluidine	Down
8	Phencyclidine	Down
9	Bupirimate	Down
10	PC(16:0/16:0)	Up
11	O-anisidine	Down
12	3-hydroxy-c14 homoserine lactone	Up
13	2-butoxypyridine	Down
14	2-(2-ethoxyethyl)pyridine	Down
15	Oleamide	Down
16	Ropinirole	Down
17	Thiocarlide	Down
18	Bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate	Up
19	4-acetamidoantipyrin	Up
20	Cyproheptadine	Down
21	L-pipecolic acid	Up
22	P-phenetidine	Down
23	L-carnitine	Up
24	3-methyladenine	Down
25	Dixyrazine	Down
26	1-(4-isopropylphenyl)-3-methylurea	Down
27	Tribenzylamine n-oxide	Down
28	Dodeca-2,4,8,10-tetraenoic acid isobutylamide	Down
29	5,6-dimethylbenzimidazole	Down
30	1-decanoyl-2-hydroxy-sn-glycero-3-phosphocholine	Up
31	Norharmame	Down
32	Germacrone	Up
33	Medicagenic acid	Up
34	Cyclo(tyrosyl-prolyl)	Down
35	Buspirone	Down
36	2-phenylacetamide	Down
37	2-sdahma [dmed-fahfa]	Up
38	1-methoxyindole-3-carbaldehyde	Down
39	5-methyl-5,6-dihydrouracil	Down
40	.alpha.-santonin	Down
41	Clasto-lactacystin .beta.-lactone	Down
42	Cyclo(proline-leucine)	Down
43	Retinene	Down

Up: DQMs up-regulated; Down: DQMs down-regulated.

**Table S4** Differential metabolites (DMs) in PD mice treated with RZ and RZPPs

No	Name	Up-Down					
		N vs. C	C vs. RZ	C vs. BG	C vs. GC	RZ vs. BG	BG vs. GC
1	DL-arginine	Up	-	-	-	-	-
2	Diethyltoluamide	Down	-	-	-	-	-
3	Acetylcarnitine	Down	-	-	-	-	-
4	Hypoxanthine	Up	-	Up	-	Down	-
5	4-hydroxy-l-isoleucine	Down	-	-	-	-	-
6	Lysine	Down	-	-	-	-	-
7	1-pentadecanoyl-sn-glycero-3-phosphocholine	Up	-	-	-	-	-
8	Latanoprost	Up	-	-	-	-	-
9	1-oleoyl-2-myristoyl-sn-glycero-3-phosphocholine	Down	-	-	-	-	-
10	Ser-Ser-Arg	Down	Down	Down	Down	-	-
11	Fenpropidin	-	-	Down	-	-	Down
12	Phytosphingosine	-	-	-	Up	-	Down

13	Fenfluramine	-	-	-	Up	-	-
14	Urea	-	-	-	-	Up	-
15	Phosphocholine	-	-	-	-	Down	-
16	1-palmitoyl-2-docosahexaenoyl-sn-glycero-3-phosphocholine	Down	-	-	-	-	-
17	Prostaglandin f2.beta.	Down	-	-	-	-	-
18	1-hexadecyl-2-(5z,8z,11z,14z-eicosatetraenoyl)-sn-glycero-3-phosphocholine	Down	-	-	-	-	-
19	1-(1z-octadecenyl)-2-(5z,8z,11z,14z-eicosatetraenoyl)-sn-glycero-3-phosphocholine	Down	-	-	-	-	-
20	4-aminopyridine	Up	-	Up	-	Down	-
21	Gln-gln	-	-	-	Down	-	-
22	Pro-pro	-	-	-	-	Down	-

N: Normal group; C: Control group; RZ: Rhizoma zingiberis group; BG: Baked ginger group; GC: Ginger charcoal group; Up: up-regulated DMs; Down: down-regulated DMs.