Table S4 Analysis of the main differential active ingredients associated with neurodegenerative changes PPI in black tea (BT) compared to green tea (GT)

| Compounds | Degree | Formula | Fold change | Family | MW | BBB permeant | Bioavailability Score |
|---|---|---|---|---|---|---|---|
| Vindoline | 39 | C25H32N2O6 | 12.28 | Alkaloids | 456.23 | No | 0.55 |
| Rhamnetin | 26 | C16H12O7 | 4.58 | Flavonoids | 316.06 | No | 0.55 |
| Sedanolide | 19 | C12H18O2 | 13.45 | Isobenzofurans | 176.12 | Yes | 0.55 |
| Cyclo(leucylprolyl) | 16 | C11H18N2O2 | 7.06 | Amino acids,peptides,and analogues | 210.14 | No | 0.55 |
| Biocytin | 11 | C16H28N4O4S | 4.05 | Amino acids,peptides,and analogues | 372.18 | No | 0.55 |
| GomisinJ | 10 | C22H28O6 | 8.95 | Phenols and derivatives | 388.19 | No | 0.55 |
| Irbesartan | 10 | C25H28N6O | 43.68 | Benzene and derivatives | 428.23 | No | 0.55 |
| Ethyl3-Indoleacetate | 9 | C12H13NO2 | 9.31 | Others | 203.09 | Yes | 0.55 |
| 5,15-Diacetyl-3-benzoyllathyrol | 8 | C31H38O7 | 23.68 | Others | 522.26 | No | 0.55 |
| Neferine | 7 | C38H44N2O6 | 8.25 | Alkaloids | 312.16 | No | 0.55 |
| Oleoyl-L-α-lysophosphatidicacid | 7 | C21H41O7P | 15.73 | Glycerophospholipids[GP] | 436.26 | No | 0.56 |
| Spiculisporicacid | 7 | C17H28O6 | 12.02 | Others | 328.19 | No | 0.56 |
| Aleuriticacid | 6 | C16H32O5 | 12.61 | Others | 304.22 | No | 0.56 |
| Ergocristine | 6 | C35H39N5O5 | 26.27 | Alkaloids | 591.29 | No | 0.55 |
| L-Tyrosine | 5 | C9H11NO3 | 26.65 | Amino acids | 181.07 | No | 0.55 |
| Propiomazine | 5 | C20H24N2OS | 6.97 | Phenothiazines | 340.16 | Yes | 0.55 |
| trans-JasmonicAcid | 5 | C12H18O3 | 82.40 | Others | 210.13 | Yes | 0.85 |
| Alanyltyrosine | 4 | C12H16N2O4 | 157.73 | Endogenous Metabolites | 252.11 | No | 0.55 |
| Cytidine | 4 | C9H13N3O5 | 79.89 | Nucleic acids | 243.09 | No | 0.55 |
| Esculetin | 4 | C9H6O4 | 123.95 | Coumarins | 178.03 | No | 0.55 |
| Lincomycin | 4 | C18H34N2O6S | 57.86 | Amino acids,peptides,and analogues | 406.21 | No | 0.55 |
| TranexamicAcid | 4 | C8H15NO2 | 20.36 | Amino acids,peptides,and analogues | 157.11 | No | 0.55 |
| (R)-Prunasin | 3 | C14H17NO6 | 4.15 | Carbohydrates | 295.11 | No | 0.55 |
| 10-Nitrolinoleate | 3 | C18H31NO4 | 65.99 | Fatty acyls[FA] | 307.21 | No | 0.56 |
| Abscisicacid | 3 | C15H20O4 | 10.62 | Others | 264.14 | Yes | 0.85 |
| Arachidonicacid | 3 | C20H32O2 | 41.05 | Fatty acyls[FA] | 304.24 | No | 0.85 |
| Ferulaldehyde | 3 | C10H10O3 | 4.42 | Phenylpropanoid | 178.06 | Yes | 0.55 |

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| N-Acetyl-L-phenylalanine | 3 | C11H13NO3 | 8.03 | Amino acids,peptides,and analogues | 207.09 | No | 0.85 |
| Palmitoylethanolamide | 3 | C18H37NO2 | 7.21 | Organic acids | 299.28 | Yes | 0.55 |
| Pioglitazone | 3 | C19H20N2O3S | 13.27 | Benzene and derivatives | 356.11 | No | 0.55 |
| 3,4,5-Trimethoxycinnamicacid | 2 | C12H14O5 | 201.60 | Polyketides[PK] | 238.08 | Yes | 0.85 |
| 4-Hydroxyisoleucine | 2 | C6H13NO3 | 11.34 | Others | 147.09 | No | 0.55 |
| 6-Gingerol | 2 | C17H26O4 | 14.95 | Polyketides[PK] | 294.18 | Yes | 0.55 |
| Artemisinin | 2 | C15H22O5 | 31.27 | Terpenoids | 282.15 | Yes | 0.55 |
| Engeletin | 2 | C21H22O10 | 20.49 | Flavonoids | 434.12 | No | 0.55 |
| Hexylcinnamaldehyde | 2 | C15H20O | 4.27 | Polyketides[PK] | 216.15 | Yes | 0.55 |
| Lithosprmoside | 2 | C14H19NO8 | 449.48 | Others | 329.11 | No | 0.55 |
| Oxymorphone | 2 | C17H19NO4 | 32.53 | Benzene and derivatives | 301.13 | No | 0.55 |
| Sec-O-Glucosylhamaudol | 2 | C21H26O10 | 8.83 | Others | 438.15 | No | 0.55 |
| (+/-)12(13)-DiHOME | 1 | C18H34O4 | 60.59 | Fatty acyls[FA] | 314.24 | No | 0.56 |
| (+/-)5(6)-EETEthanolamide | 1 | C22H37NO3 | 11.07 | Endogenous Metabolites | 363.28 | Yes | 0.55 |
| 12-Oxophytodienoicacid | 1 | C18H28O3 | 11.28 | Fatty acyls[FA] | 292.20 | Yes | 0.85 |
| 15(s)-hpete | 1 | C20H32O4 | 16.42 | Fatty acyls[FA] | 336.23 | No | 0.85 |
| 3-Furfuryl2-pyrrolecarboxylate | 1 | C10H9NO3 | 5.70 | Alkaloids | 191.06 | Yes | 0.55 |
| 4-Acetamidobutanoicacid | 1 | C6H11NO3 | 34.76 | Amino acids,peptides,and analogues | 145.07 | No | 0.85 |
| 4-Hydroxy-3-methoxyphenylglycolsulfate | 1 | C9H12O7S | 57.11 | Organic acids | 264.03 | No | 0.56 |
| 4-Methyl-6,7-dihydroxycoumarin | 1 | C10H8O4 | 16.38 | Coumarins and derivatives | 192.04 | Yes | 0.55 |
| Arachidonoylamide | 1 | C20H33NO | 9.13 | Endogenous Metabolites | 303.26 | Yes | 0.55 |
| Asiaticacid | 1 | C30H48O5 | 14.64 | Terpenoids | 488.35 | No | 0.56 |
| Buprenorphine | 1 | C29H41NO4 | 7.58 | Benzene and derivatives | 467.30 | Yes | 0.55 |
| Butalbital | 1 | C11H16N2O3 | 23.98 | Pyrimidines and pyrimidine derivatives | 224.12 | No | 0.55 |

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| Cafestol | 1 | C20H28O3 | 5.50 | Terpenoids | 316.20 | Yes | 0.55 |
| Cannabidiolicacid | 1 | C22H30O4 | 7.11 | Polyketides[PK] | 358.22 | No | 0.56 |
| DihydrocucurbitacinF | 1 | C30H48O7 | 6.38 | Terpenoids | 520.34 | No | 0.55 |
| Epitestosteroneglucuronide | 1 | C25H36O8 | 26.34 | Steroids/Vitamins/Hormones | 464.24 | No | 0.56 |
| Ethylcaffeate | 1 | C11H12O4 | 10.51 | Phenylpropanoids | 208.07 | Yes | 0.55 |
| Ethylgallate | 1 | C9H10O5 | 16.07 | Benzene and derivatives | 198.05 | No | 0.55 |
| Galangin | 1 | C15H10O5 | 12.88 | Polyketides[PK] | 270.06 | No | 0.55 |
| GardeninB | 1 | C19H18O7 | 8.74 | Flavonoids | 358.11 | No | 0.55 |
| Gitogenin | 1 | C27H44O4 | 5.66 | Sterol lipids[ST] | 432.32 | Yes | 0.55 |
| Glycerophospho-N-palmitoylethanolamine | 1 | C21H44NO7P | 11.21 | Endogenous Metabolites | 453.28 | No | 0.56 |
| Isopropyl4-Hydroxybenzoate | 1 | C10H12O3 | 8.59 | Phenolsandderivatives | 226.08 | Yes | 0.55 |
| Jervine | 1 | C27H39NO3 | 4.10 | Alkaloids | 425.29 | Yes | 0.55 |
| Loratadine | 1 | C22H23ClN2O2 | 29.75 | Pyridine and derivatives | 382.14 | Yes | 0.55 |
| Methylp-tert-butylphenylacetate | 1 | C13H18O2 | 22.93 | Benzene and derivatives | 206.13 | Yes | 0.55 |
| Mulberrin | 1 | C25H26O6 | 7.09 | Flavonoids | 422.17 | No | 0.55 |
| Myriocin | 1 | C21H39NO6 | 5.83 | G Protein-coupled receptors | 401.28 | No | 0.55 |
| N-Acetylsphingosine | 1 | C20H39NO3 | 36.41 | Endogenous Metabolites | 341.29 | Yes | 0.55 |
| Panaxtriol | 1 | C30H52O4 | 8.05 | Terpenoids | 476.39 | No | 0.55 |
| Parthenolide | 1 | C15H20O3 | 14.13 | Terpenoids | 248.14 | Yes | 0.55 |
| Peimisine | 1 | C27H41NO3 | 12.91 | Steroids and derivatives | 427.31 | Yes | 0.55 |
| Pristimerin | 1 | C30H40O4 | 7.72 | Terpenoids | 464.29 | No | 0.55 |
| ProstaglandinB1 | 1 | C20H32O4 | 6.92 | Fatty acyls[FA] | 336.23 | No | 0.85 |
| Puerarin | 1 | C21H20O9 | 15.51 | Flavonoids | 398.10 | No | 0.55 |
| PyrethrinII | 1 | C22H28O5 | 57.04 | Terpenoids | 372.19 | Yes | 0.55 |
| Sulfasalazine | 1 | C18H14N4O5S | 11.80 | Benzene and derivatives | 398.06 | No | 0.56 |
| Testosteroneacetate | 1 | C21H30O3 | 5.28 | Sterol lipids[ST] | 330.22 | Yes | 0.55 |