

Supplementary Table 2 Significant metabolites to patients with glaucoma that identified by metabolomic methods.

First Authors (Year)	Metabolomics methodology	Targeted /Untargeted	Up-regulation	Down-regulation
OAG				
Cabrerizo (2017) ²⁰	UPLC-MS	targeted	SM(d18:2/16:0), SM(d18:1/18:0), SM(36:2), SM(42:3), SM(d18:2/22:0), ChoE(16:0), SM(38:1), PC(18:0/18:2), ChoE(18:2), PC(O-24:1/20:4), ChoE(18:1), SM(d18:2/20:0), SM(d18:1/16:0), ChoE(20:4), ChoE(20:3), PC(P-16:0/20:4), PC(O-22:0/20:4)	PC(40:1), PC(O-38:4), DAPC_5, MEMAPC_20
Buisset (2019) ²¹	HPLC-MS	targeted	PC aa C34:1, PC aa C36:2, PC aa C36:4, PC aa C38:4, PC aa C32:1, PC aa C34:2, PC aa C30:2, Lyso PC a C28:1, SM C18:1, Gln, Gly, Ala, Leu, Ile, hydroxyproline, acetyl-ornithine, carnitine, Crea, C2, C3, C4	Tau, spermine
Myer (2020) ²²	1H-NMR &LC-MS	untargeted	Lys, Arg, Cys, Gly, anthranilate, ascorbate, 4-hydroxybenzoate, myo-inositol, acetate, propylene glycol, 2-hydroxybutyrate, Cr, Cho	phenylalanine, Gln, 4-aminobutanoate, isopropanol, Thr
Pan (2020) ²³	GC-MS	untargeted	2-mercaptoethanesulfonic acid 2, D-erythronolactone 2, D-Talose 1, Dehydroascorbic Acid 2, Galactose 1, Mannose 1, Pelargonic acid, Ribitol	Biotin, Glucose-1-phosphate, Methylmalonic acid, N-cyclohexylformamide 1, Sorbitol, Spermidine 2
Burgess (2015) ²⁴	LC-MS	untargeted	Palmitoylcarnitine, C17, Pentadecanone, Heptadecanone, Heptadecanediol, Hydroxytetradecanedioic acid, HODE-cholesteryl ester, Diapo-zeta-carotene (terpene), Ergostanol, Heptadecylbenzenediol, Ergosterol	C19, Complex glycosphingolipid
Leruez (2018) ²⁵	LC-MS	targeted	Tyr, Met, hexose, PC ae 40:1, MetSO, C3, PC aa 34:2, PC aa 34:4, PC aa 36:4, C4, C10:1, C12:1, Arg	spermidine, spermine, octadecadienyl-carnitine, C18:1, histamine

Kouassi Nzoughet (2019) ²⁶	LC-HRMS	untargeted	N-acetyl-L-Leu, 1-myristate,1-oleoyl-RAC-glycerol	Arg, cystathionine	RAC-glycerol	nicotinamide, hypoxanthine, xanthine, 1-methyl-6,7-dihydroxy-1,2,3,4-tetrahydr oisoquinoline
Javadiyan (2012) ²⁷	LC-MS	targeted	ADMA,SDMA			none
Umeno (2019) ¹⁷	HPLC-MS	targeted	HODE,HETE,9-(Z,E)-HODE/LA,12-(Z,E)-HODE/LA, and 12-(Z,E)-HODE/LA, 13-(Z,E)-HODE/LA, 13-(E,E)-HODE/LA,9- and 13-(Z,E)-HODE/LA, 5-HETE/AA,12-HETE/AA,15-HETE/AA			none
Gong (2020) ²⁸	GC-MS	untargeted	DL-Lys,L-γ-Glutamyl-L-Ala,MHPG,17-Hydroxypregnenolo ne sulfate,Hypoxanthine,3a,7a-Dihydroxycholanoic acid			Gly,Gly-l-pro,Citric acid,Aspartyl-L-pro
Rossi (2019) ²⁹	UPLC-MS	targeted	none			Ala, Arg, Met, Phe, Pro, Val, C2, C22:0-LPC, C24:0-LPC, C0, Tyr
Boucard (2007) ³⁰	1H-MRS	targeted	none			none
Sidek (2016) ³¹	1H-MRS	untargeted	none			none
PACG						
Rong (2017) ³²	GC-MS	targeted	PA, GLA, adrenic acid			LA,ARA
PCG						
Chen (2019) ³³	GC-MS	untargeted	Gly 2, Phe 1			urea
PEXG						
Myer	1H-NMR	untargeted	Cr,C6H13NO9,5-hydroxypentanoate			propylene glycol,L-Arg, L-Lys, L-Gln,

(2020) ³⁴	&LC-MS			L-Tyr,2,4-diacetamido-2,4,6-trideoxy-beta-l-altrose, N(6)-acetyllysine,1-aminocyclopropane-1-carboxylate, L-His, C6H9N4O3P
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Barbosa Breda (2020) ³⁵	¹ H-NMR	untargeted	Ala	none
Doganay (2012) ¹⁸	MRS	targeted	none	none

OAG, Open Angle glaucoma; PACG, Primary angle-closure glaucoma; PEXG, Pseudoexfoliation glaucoma; PCG, Primary congenital glaucoma; AH, Aqueous humor; Arg, Arginine; Leu, Leucine; SM, Sphingomyelin; PC, phosphatidylcholine; ChoE, Cholesteryl esters; DAPC, diacylglycerophosphocholines; MEMAPC, 1-ether, 2-acylglycerophosphocholines; C17, Sphinganine; HODE, Hydroxyarachidonate; C19, Sphingosine 1-phosphate; PA, Palmitoleic acid; GLA, Gamma-linolenic acid; LA, Linoleic acid; ARA, Arachidonic acid; Ala, Alanine; Met, Methionine; Phe, Phenylalanine; Pro, Proline; Val, Valine; C2, Acetylcarnitine; LPC, lysophosphatidylcholine; Ile, isoleucine; C0, Carnitine; Tyr, Tyrosine; Tau, Taurine; C3, Propionylcarnitine; Crea, Creatinine; Gln, Glutamine; Cr, Creatine; Lys, Lysine; His, Histidine; MHPG, 3-methoxy-4-hydroxyphenylglycol; Gly, Glycine; MetSO, methionine sulfoxide; C10:1, decenoylcarnitine; C12:1, dodecenoylcarnitine; C18:1, octadecenoylcarnitine; Cys, Cysteine; AA, Ascorbic acid; Cr, Creatine; Cho, Choline; Thr, Threonine; HETE, hydroxyarachidonate; ADMA, Asymmetric dimethylarginine; SDMA, symmetric dimethylarginine.