**Support Information**

**Potential of Bioactive Compounds In *Coleus amboinicus*, Lour., Leaves Against Breast Cancer By Assessment Using A Network Pharmacology Approach and Cytotoxic Test**

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**AUTHOR CONTRIBUTIONS**

Conceptualization, W. H., and K. G.; Methodology, W. H., J. F.; and E. A.; Software, W. H.; Formal Analysis, K. G.; Investigation, K. G.; Resources, W. H.; Data Curation, W. H., J. F.; and E. A.; Writing – Original Draft Preparation, W. H. and K. G.; Writing – Review & Editing, K. G.; W. H., J. F.; and E. A.; Funding Acquisition, W. H.

**Table S1.** Prediction of genes (proteins) of bioactive compounds from ethyl acetate extract of C. amboinicus leaves using the SWISS Target Prediction source

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Resolvin D1** | **Gibberellin A24** | **Hexyl 2-furoate** | **13(S)-HOTrE** | **Arachidonic acid** | **4-Indolecarbaldehyde** | **Asiatic acid** | **9(S)-HpOTrE** | **Caffeic acid** | **Arctiopicrin** |
| 1 | NA | UBA2 | PABPC1 | LTB4R | FABP4 | CYP2A6 | AKR1B10 | FABP4 | AKR1B1 | NA |
| 2 |  | SAE1 | CCNE1 | PPARG | PPARG | KIF11 | PTPN1 | PPARG | AKR1B10 |  |
| 3 |  | POLB | CDK2 | ALOX5 | PPARA | CCR1 | HSD11B1 | PPARA | AKR1C2 |  |
| 4 |  | AKR1B10 | CCNE2 | PTGIR | PPARD | ERN1 | POLB | PPARD | AKR1C3 |  |
| 5 |  | HSD11B1 | CCNB2 | PPARA | FFAR1 | NOS2 | PTPN2 | FFAR1 | AKR1C4 |  |
| 6 |  | PTPN1 | CCNB1 | PPARD | FABP3 | CCR8 | PLA2G1B | FABP3 | ALOX5 |  |
| 7 |  | TOP2A | CDK1 | PTGER4 | ALOX5 | MALT1 | CDC25B | ALOX5 | APP |  |
| 8 |  | CDC25C | CCNB3 | PTGER2 | PTGS1 | CCR5 | RORC | PTGS1 | CA1 |  |
| 9 |  | NR1H4 | ABCB1 | PTGER1 | CNR1 | CAPN1 | PTPRF | CNR1 | CA12 |  |
| 10 |  | PTGS2 | PTK2B | THRA | FAAH | MCL1 | ACP1 | FAAH | CA13 |  |
| 11 |  | ACE | MAOB | THRB | TERT |  | PDE4D | TERT | CA14 |  |
| 12 |  | MME | CXCR2 | AGTR1 | FABP5 |  | CD81 | FABP5 | CA2 |  |
| 13 |  | PTGES | HCRTR2 | PTGDR2 | FABP1 |  | PTGES | FABP1 | CA3 |  |
| 14 |  | CDC25A | HCRTR1 | PTPN1 | SCD |  | CES2 | SCD | CA4 |  |
| 15 |  | CES2 | KCNA3 | PGR | PTGER2 |  | CDC25A | PTGER2 | CA5A |  |
| 16 |  | CPA1 | BRAF | IMPDH2 | TOP1 |  | NOS2 | TOP1 | CA5B |  |
| 17 |  | CPB2 | CYP2C19 | CTSA | TRPV1 |  | FNTB | TRPV1 | CA6 |  |
| 18 |  | PDE5A | GRM5 | PTGER3 | PTGER1 |  | FNTA | PTGER1 | CA7 |  |
| 19 |  | PDE9A | MCL1 | IMPDH1 | PTGES |  | TERT | PTGES | CA9 |  |
| 20 |  | UGT2B7 | KIT | TBXAS1 | ALOX12 |  | FABP1 | ALOX12 | CYP1A2 |  |
| 21 |  | GPBAR1 | EPHX1 | FABP4 | PTPN1 |  | AR | PTPN1 | CYP2C19 |  |
| 22 |  | PYGL | NQO2 | FABP3 | CES2 |  | SCD | CES2 | CYP2C9 |  |
| 23 |  | PYGM | PREP | FABP5 | RXRA |  | PTPN6 | RXRA | CYP3A4 |  |
| 24 |  | PARP1 | IDO1 | RARG | PTGES2 |  | LTB4R | PTGES2 | EGFR |  |
| 25 |  | PARP2 | MTNR1A | RARB | RXRB |  | SERPINA6 | RXRB | ELANE |  |
| 26 |  | NOS2 | MTNR1B | RARA | RXRG |  | SHBG | RXRG | ERBB2 |  |
| 27 |  | CXCL8 | GABRA3 | VDR | POLB |  | PPARA | POLB | ESR1 |  |
| 28 |  | ECE1 | GABRG2 | ACE | RARG |  | PPARD | RARG | ESR2 |  |
| 29 |  | AKR1B1 | GABRB3 | MME | RARB |  | PREP | RARB | F3 |  |
| 30 |  | AKR1A1 | GABRA1 | GRM2 | RARA |  | PPARG | RARA | FYN |  |
| 31 |  | NR1H3 | GABRA5 | GSK3A | PTGDR2 |  | PTGS2 | PTGDR2 | HCAR2 |  |
| 32 |  | PTPN6 | GABRA2 | AMPD2 | PTPN2 |  | CYP19A1 | PTPN2 | HSD11B1 |  |
| 33 |  | CTSA | CTSK | ESR1 | ALOX15 |  | ESR2 | ALOX15 | LCK |  |
| 34 |  |  | IMPDH2 | JAK3 | FABP2 |  | HMGCR | FABP2 | MAPK1 |  |
| 35 |  |  | HSD11B1 | BCL2 | ESR2 |  | NR3C2 | ESR2 | MIF |  |
| 36 |  |  | PSENEN | MDM2 | TBXAS1 |  | HSD11B2 | TBXAS1 | MMP1 |  |
| 37 |  |  | NCSTN | CYP19A1 | CYP26B1 |  | FABP4 | CYP26B1 | MMP2 |  |
| 38 |  |  | APH1A | PTGDR | PLA2G4A |  | FABP3 | PLA2G4A | MMP9 |  |
| 39 |  |  | PSEN1 | TNF | HSD11B1 |  | FABP5 | HSD11B1 | NFE2L2 |  |
| 40 |  |  | APH1B | SYK | TRPA1 |  | PRKCH | TRPA1 | NQO2 |  |
| 41 |  |  | PSEN2 | ESR2 | CYP26A1 |  | PTPN11 | CYP26A1 | PIK3CA |  |
| 42 |  |  | P2RX7 | ADAMTS5 | PTGDR |  | NR3C1 | PTGDR | PIK3CB |  |
| 43 |  |  | CHRM1 | MMP14 | HMGCR |  | G6PD | HMGCR | PTGS1 |  |
| 44 |  |  |  | SRD5A2 | MDM2 |  | CYP51A1 | MDM2 | PTPN1 |  |
| 45 |  |  |  | CCR1 | HSD11B2 |  | GPBAR1 | HSD11B2 | SLC6A2 |  |
| 46 |  |  |  | PLA2G4A | TRPM8 |  | FAAH | TRPM8 | STAT3 |  |
| 47 |  |  |  | AURKA | PTGER4 |  | PTGS1 | PTGER4 | SYK |  |
| 48 |  |  |  | PDE5A | DAGLA |  | NPC1L1 | DAGLA | TLR4 |  |
| 49 |  |  |  | TYMS | LTB4R |  | CYP17A1 | LTB4R | TTR |  |
| 50 |  |  |  | TOP2A | CDC25A |  | ALOX5 | CDC25A |  |  |
| 51 |  |  |  | BACE1 | PSENEN |  | PTGER2 | PSENEN |  |  |
| 52 |  |  |  | FAAH | NCSTN |  | ADORA3 | NCSTN |  |  |
| 53 |  |  |  | TRPM8 | APH1A |  | SLC10A2 | PSEN1 |  |  |
| 54 |  |  |  | PTGFR | PSEN1 |  | SLC10A1 | APH1B |  |  |
| 55 |  |  |  | SLC22A6 | APH1B |  | NR1H4 | APH1A |  |  |
| 56 |  |  |  | FABP1 | PSEN2 |  | ESR1 | PSEN2 |  |  |
| 57 |  |  |  | P2RX3 | SLC22A12 |  | ALOX5AP | SLC22A12 |  |  |
| 58 |  |  |  | PLK4 | PTGIR |  | PTGDR | PTGIR |  |  |
| 59 |  |  |  | IKBKB | PRKCH |  | PTGDR2 | PRKCH |  |  |
| 60 |  |  |  | DPP4 | NR1H3 |  | IL6 | NR1H3 |  |  |
| 61 |  |  |  | CASP3 | RORC |  | GLUL | RORC |  |  |
| 62 |  |  |  | CASP7 | CNR2 |  | TOP2A | CNR2 |  |  |
| 63 |  |  |  | CASP8 | AGTR1 |  | TOP1 | AGTR1 |  |  |
| 64 |  |  |  | ITGA4 | SLC16A1 |  | TLR9 | SLC16A1 |  |  |
| 65 |  |  |  | ITGB1 | MMP13 |  | PTGER4 | MMP13 |  |  |
| 66 |  |  |  | CYP2C9 | MMP3 |  | NR1H3 | MMP3 |  |  |
| 67 |  |  |  | ITGB3 | MMP9 |  | THRA | MMP9 |  |  |
| 68 |  |  |  | ITGAV | MMP2 |  | THRB | MMP2 |  |  |
| 69 |  |  |  | STS | MMP12 |  | PLA2G4A | MMP12 |  |  |
| 70 |  |  |  | S1PR5 | MMP8 |  |  | MMP8 |  |  |
| 71 |  |  |  | MMP13 | PTPN11 |  |  | PTPN11 |  |  |
| 72 |  |  |  | MMP3 | HNF4A |  |  | HNF4A |  |  |
| 73 |  |  |  | MMP2 | RBP4 |  |  | RBP4 |  |  |
| 74 |  |  |  | MAPK10 | ENPP2 |  |  | ENPP2 |  |  |
| 75 |  |  |  | ECE1 | TP53 |  |  | TP53 |  |  |
| 76 |  |  |  | SLC6A1 | NOS2 |  |  | NOS2 |  |  |
| 77 |  |  |  | DUSP3 | ESR1 |  |  | ESR1 |  |  |
| 78 |  |  |  | PTPN22 | NR3C1 |  |  | NR3C1 |  |  |
| 79 |  |  |  | CCKBR | CMA1 |  |  | CMA1 |  |  |
| 80 |  |  |  | CHEK1 | CTSG |  |  | CTSG |  |  |
| 81 |  |  |  | CNR1 | HTR2B |  |  | HTR2B |  |  |
| 82 |  |  |  | GCGR | RORB |  |  | RORB |  |  |
| 83 |  |  |  | ITGB6 | MAPK1 |  |  | MAPK1 |  |  |
| 84 |  |  |  | ITGAV | OXER1 |  |  | OXER1 |  |  |
| 85 |  |  |  | OPRM1 | ICAM1 |  |  | ICAM1 |  |  |
| 86 |  |  |  | OPRD1 | ITGB2 |  |  | ITGB2 |  |  |
| 87 |  |  |  | S1PR2 | ITGAL |  |  | ITGAL |  |  |
| 88 |  |  |  | TP53 | CCKAR |  |  | CCKAR |  |  |
| 89 |  |  |  | AKR1C3 | PGR |  |  | PGR |  |  |
| 90 |  |  |  | NR0B2 | ADRA2B |  |  | ADRA2B |  |  |
| 91 |  |  |  | AMPD1 | MAPK14 |  |  | MAPK14 |  |  |
| 92 |  |  |  | AMPD3 | FFAR4 |  |  | FFAR4 |  |  |
| 93 |  |  |  | FLT1 | CDC25B |  |  | CDC25B |  |  |
| 94 |  |  |  | ITGA2B | PTGS2 |  |  | PTGS2 |  |  |
| 95 |  |  |  | ITGB5 | PTPN6 |  |  | PTPN6 |  |  |
| 96 |  |  |  | ADAMTS4 | ALOX5AP |  |  | ALOX5AP |  |  |
| 97 |  |  |  | KDR | PDE4D |  |  | PDE4D |  |  |
| 98 |  |  |  | MMP1 | PDE4A |  |  | PDE4A |  |  |
| 99 |  |  |  | CSNK2A1 | PDE4B |  |  | PDE4B |  |  |
| 100 |  |  |  | SERPINA6 | PDE4C |  |  | PDE4C |  |  |
| 101 |  |  |  | SHBG | ACE |  |  | ACE |  |  |
| 102 |  |  |  | G6PD | KEAP1 |  |  | KEAP1 |  |  |
| 103 |  |  |  |  | PRKAB1 |  |  | PRKAB1 |  |  |
| 104 |  |  |  |  | PRKAA2 |  |  | PRKAA2 |  |  |
| 105 |  |  |  |  | PRKAG1 |  |  | PRKAG1 |  |  |
| 106 |  |  |  |  | FNTB |  |  | FNTB |  |  |
| 107 |  |  |  |  | FNTA |  |  | FNTA |  |  |
| 108 |  |  |  |  | NR3C2 |  |  | NR3C2 |  |  |
| 109 |  |  |  |  | AKR1B1 |  |  | AKR1B1 |  |  |
| 110 |  |  |  |  | AKR1B10 |  |  | AKR1B10 |  |  |

**Table S2.** Potential gene analysis of bioactive compounds of the ethyl acetate extract of *C. amboinicus* leaves with CytoHubba 3.10.2 plug-in, sourced from STRING data.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Average Shortest Path Length** | **Betweenness Centrality** | **Closeness Centrality** | **Clustering Coefficient** | **Edge Count** | **Name Gene** |
| 1 | 3.176471 | 0 | 0.314815 | 0.25 | 4 | ABCB1 |
| 2 | 3.15625 | 0.080773 | 0.316832 | 0.225275 | 14 | CYP2C9 |
| 3 | 1.333333 | 0.45362 | 0.75 | 0.125253 | 45 | STAT3 |
| 4 | 3.090909 | 0.0217 | 0.323529 | 0.219697 | 12 | CYP2C19 |
| 5 | 3.233333 | 0.228017 | 0.309278 | 0.154167 | 16 | CYP3A4 |
| 6 | 3.140741 | 0 | 0.318396 | 0.069444 | 9 | ACE |
| 7 | 4.376812 | 0.007528 | 0.228477 | 0 | 2 | CMA1 |
| 8 | 2.6 | 0.049961 | 0.384615 | 0.095238 | 7 | HMGCR |
| 9 | 1.5 | 0.139248 | 0.666667 | 0.110918 | 42 | TNF |
| 10 | 1.888889 | 0.753016 | 0.529412 | 0.183077 | 26 | MMP9 |
| 11 | 2.155844 | 2.324441 | 0.463855 | 0.123077 | 40 | IL6 |
| 12 | 3.971014 | 0.011391 | 0.251825 | 0.083333 | 4 | DPP4 |
| 13 | 3.210526 | 0.475588 | 0.311475 | 0.097222 | 9 | MME |
| 14 | 2.733333 | 0.187335 | 0.365854 | 0.166667 | 7 | NR3C2 |
| 15 | 2.984496 | 0.154227 | 0.335065 | 0.083333 | 4 | AGTR1 |
| 16 | 3.7 | 0 | 0.27027 | 0 | 1 | ACP1 |
| 17 | 2.842105 | 0.037409 | 0.351852 | 0.166667 | 3 | G6PD |
| 18 | 3.304348 | 0 | 0.302632 | 0 | 2 | ADAMTS4 |
| 19 | 3.380952 | 0.059431 | 0.295775 | 0.071429 | 7 | MMP13 |
| 20 | 2.631579 | 0.264327 | 0.38 | 0.209091 | 11 | MMP3 |
| 21 | 3.304348 | 0 | 0.302632 | 0 | 2 | ADAMTS5 |
| 22 | 2.367188 | 0.718412 | 0.422442 | 0.107895 | 20 | APP |
| 23 | 2.15 | 0.47001 | 0.465116 | 0.14418 | 28 | CXCL8 |
| 24 | 0 | 0 | 0 | 0.166667 | 4 | PTGFR |
| 25 | 4.205607 | 0 | 0.237778 | 0.5 | 2 | AKR1B1 |
| 26 | 4.235849 | 0 | 0.23608 | 0.5 | 2 | AKR1B10 |
| 27 | 3.266667 | 0.449288 | 0.306122 | 0.141026 | 13 | AKR1C3 |
| 28 | 4.113208 | 0 | 0.243119 | 0.35 | 5 | AKR1C2 |
| 29 | 2.969697 | 0.038642 | 0.336735 | 0.267857 | 8 | CYP2A6 |
| 30 | 0 | 0 | 0 | 0.19697 | 12 | UGT2B7 |
| 31 | 3.458333 | 0.009929 | 0.289157 | 0.3 | 5 | AKR1C4 |
| 32 | 1 | 0.001848 | 1 | 0.285714 | 7 | SRD5A2 |
| 33 | 0 | 0 | 0 | 0.45 | 5 | STS |
| 34 | 3.531915 | 0.199248 | 0.283133 | 0.204545 | 12 | CYP1A2 |
| 35 | 1.916667 | 0.076961 | 0.521739 | 0.155556 | 10 | PTGES |
| 36 | 3.356436 | 0.049419 | 0.297935 | 0.208333 | 9 | CYP17A1 |
| 37 | 2.744681 | 0.448776 | 0.364341 | 0.174242 | 12 | CYP19A1 |
| 38 | 2.809524 | 0.300812 | 0.355932 | 0.142857 | 7 | HSD11B1 |
| 39 | 4.772277 | 0 | 0.209544 | 0.446429 | 8 | ALOX12 |
| 40 | 2 | 0.034561 | 0.5 | 0.404762 | 7 | PLA2G1B |
| 41 | 2.1 | 0.091381 | 0.47619 | 0.277778 | 10 | PLA2G4A |
| 42 | 4.04 | 0.04095 | 0.247525 | 0.333333 | 10 | ALOX15 |
| 43 | 3.358974 | 0.004189 | 0.29771 | 0.288889 | 10 | ALOX5 |
| 44 | 1.428571 | 0.27967 | 0.7 | 0.136364 | 34 | PTGS2 |
| 45 | 2.111111 | 0.173411 | 0.473684 | 0.17619 | 15 | PTGS1 |
| 46 | 0 | 0 | 0 | 0 | 2 | LTB4R |
| 47 | 2.642857 | 0.003023 | 0.378378 | 0.166667 | 3 | ALOX5AP |
| 48 | 1.2 | 0 | 0.833333 | 0.5 | 4 | AMPD1 |
| 49 | 0 | 0 | 0 | 0.5 | 4 | IMPDH2 |
| 50 | 1 | 0 | 1 | 0.5 | 4 | IMPDH1 |
| 51 | 1 | 0 | 1 | 0.5 | 4 | AMPD3 |
| 52 | 1 | 0.1 | 1 | 0.3 | 5 | AMPD2 |
| 53 | 0 | 0 | 0 | 0 | 1 | PDE4A |
| 54 | 3.302326 | 0 | 0.302817 | 0.428571 | 7 | APH1A |
| 55 | 1.5 | 0.006032 | 0.666667 | 0.428571 | 7 | NCSTN |
| 56 | 3.47619 | 0.004105 | 0.287671 | 0.404762 | 7 | BACE1 |
| 57 | 2.2 | 0.242156 | 0.454545 | 0.255556 | 10 | PSEN1 |
| 58 | 2.5 | 3.77E-04 | 0.4 | 0.380952 | 7 | PSEN2 |
| 59 | 2 | 0.031922 | 0.5 | 0.428571 | 7 | PSENEN |
| 60 | 2.297872 | 1.607693 | 0.435185 | 0.135385 | 26 | MAPK1 |
| 61 | 3.690476 | 0.007331 | 0.270968 | 0 | 2 | GSK3A |
| 62 | 0 | 0 | 0 | 0 | 2 | TTR |
| 63 | 1 | 0.37264 | 1 | 0.095065 | 53 | TP53 |
| 64 | 1.846154 | 2.412761 | 0.541667 | 0.11256 | 46 | EGFR |
| 65 | 0 | 0 | 0 | 0 | 1 | ECE1 |
| 66 | 1.5 | 0.011775 | 0.666667 | 0 | 3 | GRM5 |
| 67 | 3.238806 | 0.936238 | 0.308756 | 0.16 | 26 | ITGB1 |
| 68 | 3.426471 | 0.293469 | 0.291845 | 0.233333 | 16 | FYN |
| 69 | 2.041322 | 0.395876 | 0.489879 | 0.168719 | 29 | CASP3 |
| 70 | 2.440367 | 0 | 0.409774 | 0.224359 | 13 | AR |
| 71 | 2.052632 | 0.367445 | 0.487179 | 0.212121 | 12 | NR3C1 |
| 72 | 1.678571 | 0.895785 | 0.595745 | 0.120879 | 14 | NR0B2 |
| 73 | 2.3 | 0.924545 | 0.434783 | 0.238095 | 15 | MDM2 |
| 74 | 2.202381 | 0.322679 | 0.454054 | 0.210526 | 20 | ERBB2 |
| 75 | 1.857143 | 0.422575 | 0.538462 | 0.241758 | 14 | PGR |
| 76 | 2.182927 | 0.979369 | 0.458101 | 0.173913 | 24 | ESR1 |
| 77 | 2.771429 | 0 | 0.360825 | 0.358974 | 13 | AURKA |
| 78 | 3.343434 | 0.024909 | 0.299094 | 0.393939 | 12 | CDC25A |
| 79 | 0 | 0 | 0 | 0.464286 | 8 | TYMS |
| 80 | 2.681818 | 0.082738 | 0.372881 | 0.294118 | 17 | CHEK1 |
| 81 | 3.36 | 2.78E-04 | 0.297619 | 0.472222 | 9 | CCNE2 |
| 82 | 2.639175 | 0.25265 | 0.378906 | 0.318681 | 14 | CDC25C |
| 83 | 2.94186 | 0.455321 | 0.339921 | 0.233333 | 21 | CDK2 |
| 84 | 2.572917 | 0.699402 | 0.388664 | 0.233766 | 22 | CDK1 |
| 85 | 1 | 0.013479 | 1 | 0.291209 | 14 | TOP2A |
| 86 | 1.25 | 0.006414 | 0.8 | 0.430556 | 9 | KIF11 |
| 87 | 2.451923 | 0.160344 | 0.407843 | 0.247619 | 21 | CCNB1 |
| 88 | 3.213592 | 0.004843 | 0.311178 | 0.319048 | 15 | CCNB2 |
| 89 | 2.032258 | 0 | 0.492063 | 0.164516 | 31 | BCL2 |
| 90 | 2.578947 | 0.047614 | 0.387755 | 0.261905 | 15 | MMP2 |
| 91 | 2 | 0.24108 | 0.5 | 0.173684 | 20 | MAPK14 |
| 92 | 2.521739 | 0.019965 | 0.396552 | 0.133333 | 6 | CTSK |
| 93 | 1.818182 | 0.57676 | 0.55 | 0.224359 | 13 | KIT |
| 94 | 2.232323 | 0.135172 | 0.447964 | 0.25817 | 18 | CASP8 |
| 95 | 2.157895 | 0.55787 | 0.463415 | 0.199346 | 18 | PARP1 |
| 96 | 2.756098 | 1.254513 | 0.362832 | 0.242424 | 12 | MCL1 |
| 97 | 3.12 | 6.63E-04 | 0.320513 | 0.4 | 6 | CASP7 |
| 98 | 1.75 | 0.220137 | 0.571429 | 0.163077 | 26 | TLR4 |
| 99 | 2.842105 | 0.015136 | 0.351852 | 0.3 | 5 | KEAP1 |
| 100 | 3 | 0.002615 | 0.333333 | 0.305556 | 9 | IKBKB |
| 101 | 2.86747 | 0.002164 | 0.348739 | 0.321429 | 8 | BRAF |
| 102 | 1.666667 | 0.002765 | 0.6 | 0.3 | 5 | ERN1 |
| 103 | 1.307692 | 0.324251 | 0.764706 | 0.195652 | 23 | PIK3CA |
| 104 | 1.5 | 0 | 0.666667 | 0.25 | 4 | TERT |
| 105 | 1.666667 | 0.234008 | 0.6 | 0.19883 | 19 | PTPN11 |
| 106 | 4 | 0 | 0.25 | 0 | 2 | CA1 |
| 107 | 3.32 | 0.010473 | 0.301205 | 0 | 3 | CA2 |
| 108 | 1 | 4.19E-04 | 1 | 0 | 2 | CA3 |
| 109 | 1 | 0 | 1 | 0 | 1 | CA12 |
| 110 | 0 | 0 | 0 | 0 | 1 | CA9 |
| 111 | 0 | 0 | 0 | 0 | 1 | SLC16A1 |
| 112 | 0 | 0 | 0 | 0 | 1 | CA4 |
| 113 | 1 | 0 | 1 | 0 | 1 | CA5A |
| 114 | 0 | 0 | 0 | 0 | 1 | CA5B |
| 115 | 2.968 | 0 | 0.336927 | 0.166667 | 4 | CAPN1 |
| 116 | 0 | 0 | 0 | 0.166667 | 3 | PYGM |
| 117 | 1.75 | 1.92E-04 | 0.571429 | 0.166667 | 3 | CHRM1 |
| 118 | 2 | 0.005309 | 0.5 | 0.333333 | 4 | PARP2 |
| 119 | 1 | 0.015856 | 1 | 0 | 2 | FNTA |
| 120 | 2.055556 | 0.08284 | 0.486486 | 0.285714 | 8 | NFE2L2 |
| 121 | 3.104167 | 0.01292 | 0.322148 | 0.15 | 5 | MALT1 |
| 122 | 3.27551 | 0.015297 | 0.305296 | 0.392857 | 8 | CDC25B |
| 123 | 2.60396 | 0.045406 | 0.38403 | 0.354545 | 11 | CCNE1 |
| 124 | 1.666667 | 0 | 0.6 | 0.466667 | 6 | PLK4 |
| 125 | 3.39 | 0 | 0.294985 | 0.5 | 5 | CCNB3 |
| 126 | 2.666667 | 0 | 0.375 | 0.357143 | 8 | CCR1 |
| 127 | 2.712871 | 2.99E-04 | 0.368613 | 0.410714 | 8 | CCR5 |
| 128 | 1.666667 | 0.13912 | 0.6 | 0.21978 | 14 | JAK3 |
| 129 | 3.263158 | 0.188184 | 0.306452 | 0.190058 | 19 | ITGB2 |
| 130 | 2.884615 | 0.009364 | 0.346667 | 0.288889 | 10 | CXCR2 |
| 131 | 2.619565 | 0 | 0.381743 | 0.416667 | 4 | CD81 |
| 132 | 3.414286 | 0.027641 | 0.292887 | 0.318182 | 11 | ITGA4 |
| 133 | 2.707317 | 0.375482 | 0.369369 | 0.221053 | 20 | ICAM1 |
| 134 | 4.096774 | 0 | 0.244094 | 0.5 | 2 | CES2 |
| 135 | 1.333333 | 0 | 0.75 | 0.5 | 4 | TOP1 |
| 136 | 3.653846 | 0 | 0.273684 | 0.333333 | 3 | CNR1 |
| 137 | 2.916667 | 0.211575 | 0.342857 | 0.1 | 5 | FAAH |
| 138 | 0 | 0 | 0 | 0.053571 | 8 | TRPV1 |
| 139 | 3.8 | 0 | 0.263158 | 0.5 | 2 | CNR2 |
| 140 | 3.916667 | 0 | 0.255319 | 0 | 1 | CPB2 |
| 141 | 2.951807 | 0.371041 | 0.338776 | 0.261905 | 7 | F3 |
| 142 | 3.025 | 0 | 0.330579 | 0.166667 | 4 | CSNK2A1 |
| 143 | 2.652174 | 0 | 0.377049 | 0.5 | 2 | CTSG |
| 144 | 2.5 | 0.040289 | 0.4 | 0.133333 | 6 | ELANE |
| 145 | 2.12 | 0.190506 | 0.471698 | 0.208791 | 14 | KDR |
| 146 | 3.661765 | 0.003343 | 0.273092 | 0.291667 | 9 | FLT1 |
| 147 | 1 | 0.020419 | 1 | 0 | 4 | OPRM1 |
| 148 | 2.428571 | 7.23E-04 | 0.411765 | 0.458333 | 9 | MMP1 |
| 149 | 2 | 0 | 0.5 | 0.4 | 6 | TLR9 |
| 150 | 1.5 | 9.01E-04 | 0.666667 | 0.333333 | 3 | MIF |
| 151 | 2.9 | 0.005816 | 0.344828 | 0.333333 | 4 | HSD11B2 |
| 152 | 3.081633 | 0.045971 | 0.324503 | 0.285714 | 8 | ESR2 |
| 153 | 0 | 0 | 0 | 0.25 | 4 | SHBG |
| 154 | 2.975 | 0.047268 | 0.336134 | 0.232143 | 8 | CYP26A1 |
| 155 | 3.088608 | 0.15181 | 0.32377 | 0.083333 | 4 | IDO1 |
| 156 | 2.909091 | 0.033918 | 0.34375 | 0.3 | 6 | EPHX1 |
| 157 | 1.777778 | 0.496202 | 0.5625 | 0.303571 | 8 | RARA |
| 158 | 2 | 0.011734 | 0.5 | 0.4 | 6 | RARG |
| 159 | 1.875 | 0.011734 | 0.533333 | 0.4 | 6 | RARB |
| 160 | 2.142857 | 0 | 0.466667 | 0.5 | 2 | CYP27B1 |
| 161 | 2 | 0.078899 | 0.5 | 0.204545 | 12 | RXRG |
| 162 | 1.5 | 0.220539 | 0.666667 | 0.171429 | 15 | RXRA |
| 163 | 0 | 0 | 0 | 0.166667 | 3 | MAOB |
| 164 | 3.5 | 0 | 0.285714 | 0 | 1 | CYP51A1 |
| 165 | 0 | 0 | 0 | 0 | 1 | PREP |
| 166 | 3.166667 | 0 | 0.315789 | 0.5 | 2 | DUSP16 |
| 167 | 3.166667 | 0 | 0.315789 | 0.5 | 2 | DUSP3 |
| 168 | 0 | 0 | 0 | 0.166667 | 3 | SLC10A1 |
| 169 | 0 | 0 | 0 | 0.5 | 2 | PTPN22 |
| 170 | 2 | 0 | 0.5 | 0.5 | 4 | PTPN2 |
| 171 | 1.666667 | 0.073875 | 0.6 | 0.281818 | 11 | LCK |
| 172 | 2.7 | 0.042854 | 0.37037 | 0.166667 | 4 | MMP14 |
| 173 | 0 | 0 | 0 | 0.267857 | 8 | PTK2B |
| 174 | 1.411765 | 1.695277 | 0.708333 | 0.128458 | 23 | PPARG |
| 175 | 1.857143 | 0.012778 | 0.538462 | 0.302198 | 14 | PTPN6 |
| 176 | 1.583333 | 0.246674 | 0.631579 | 0.205882 | 17 | PIK3CB |
| 177 | 1.9 | 0.027804 | 0.526316 | 0.3 | 5 | PTPN1 |
| 178 | 0 | 0 | 0 | 0 | 1 | MMP8 |
| 179 | 3.35 | 0.19648 | 0.298507 | 0.15 | 5 | MMP12 |
| 180 | 2.1 | 0.036491 | 0.47619 | 0.3 | 5 | PTGES2 |
| 181 | 1.777778 | 0.079099 | 0.5625 | 0.125 | 9 | NR1H4 |
| 182 | 3.318841 | 0.124828 | 0.30131 | 0.244444 | 10 | ITGA2B |
| 183 | 0 | 0 | 0 | 0 | 2 | FABP3 |
| 184 | 2.181818 | 0.285032 | 0.458333 | 0.25 | 5 | FABP5 |
| 185 | 2.461538 | 0 | 0.40625 | 0.083333 | 4 | FABP1 |
| 186 | 2 | 0.030047 | 0.5 | 0.3 | 6 | FABP4 |
| 187 | 0 | 0 | 0 | 0 | 1 | FABP2 |
| 188 | 1.952381 | 0.607103 | 0.512195 | 0.091667 | 16 | PPARA |
| 189 | 2.055556 | 0.056428 | 0.486486 | 0.357143 | 7 | PPARD |
| 190 | 2.263158 | 0 | 0.44186 | 0.5 | 2 | FFAR1 |
| 191 | 2.333333 | 0 | 0.428571 | 0.5 | 2 | FFAR4 |
| 192 | 0 | 0 | 0 | 0 | 1 | FNTB |
| 193 | 1.6 | 0.09757 | 0.625 | 0.175824 | 14 | SYK |
| 194 | 1 | 0 | 1 | 0.333333 | 3 | GABRA1 |
| 195 | 1 | 0 | 1 | 0.333333 | 3 | GABRA5 |
| 196 | 1 | 0 | 1 | 0.5 | 2 | GABRA2 |
| 197 | 0 | 0 | 0 | 0.25 | 4 | GABRG2 |
| 198 | 1 | 0 | 1 | 0.5 | 2 | GABRA3 |
| 199 | 2.363636 | 0 | 0.423077 | 0.166667 | 3 | GPBAR1 |
| 200 | 0 | 0 | 0 | 0.25 | 4 | SLC10A2 |
| 201 | 0 | 0 | 0 | 0 | 1 | S1PR2 |
| 202 | 0 | 0 | 0 | 0.25 | 4 | SCD |
| 203 | 1 | 0.139835 | 1 | 0.25 | 4 | PRKAB1 |
| 204 | 0 | 0 | 0 | 0.5 | 3 | PRKAG1 |
| 205 | 1 | 0 | 1 | 0.5 | 3 | PRKAA2 |
| 206 | 2.448276 | 0 | 0.408451 | 0.333333 | 3 | HNF4A |
| 207 | 2.910714 | 0.72465 | 0.343558 | 0.25 | 13 | ITGB3 |
| 208 | 3.391304 | 0.031381 | 0.294872 | 0.3 | 11 | ITGAL |
| 209 | 2.142857 | 0.028884 | 0.466667 | 0.166667 | 3 | RORC |
| 210 | 1.625 | 0 | 0.615385 | 0.5 | 5 | NOS2 |
| 211 | 3.455882 | 0.010803 | 0.289362 | 0.322222 | 10 | ITGAV |
| 212 | 5 | 0 | 0.2 | 0.464286 | 8 | ITGB5 |
| 213 | 4.190476 | 0.141828 | 0.238636 | 0.361111 | 9 | ITGB6 |
| 214 | 1.5 | 0.06024 | 0.666667 | 0.190476 | 7 | THRB |
| 215 | 1 | 0 | 1 | 0 | 1 | MTNR1A |
| 216 | 0 | 0 | 0 | 0 | 1 | MTNR1B |
| 217 | 1.954545 | 0.01215 | 0.511628 | 0.333333 | 7 | NR1H3 |
| 218 | 2.5 | 0 | 0.4 | 0.277778 | 10 | RXRB |
| 219 | 1 | 0.073581 | 1 | 0 | 3 | SERPINA6 |
| 220 | 1.5 | 0 | 0.666667 | 0 | 1 | OPRD1 |
| 221 | 2.444444 | 0 | 0.409091 | 0.166667 | 3 | P2RX3 |
| 222 | 1 | 0.003268 | 1 | 0.333333 | 3 | TRPA1 |
| 223 | 2.4 | 0.016338 | 0.416667 | 0 | 2 | P2RX7 |
| 224 | 1.5 | 0.009049 | 0.666667 | 0.333333 | 3 | POLB |
| 225 | 2 | 0 | 0.5 | 0.333333 | 4 | THRA |
| 226 | 3.666667 | 0 | 0.272727 | 0 | 1 | PTGDR |
| 227 | 2.857143 | 0.014369 | 0.35 | 0 | 2 | PTGDR2 |
| 228 | 2 | 0.025596 | 0.5 | 0.25 | 4 | PTGER3 |
| 229 | 1.857143 | 0 | 0.538462 | 0.45 | 5 | PTGER1 |
| 230 | 2 | 6.91E-04 | 0.5 | 0.4 | 5 | PTGER4 |
| 231 | 2.071429 | 0 | 0.482759 | 0.5 | 3 | PTGER2 |
| 232 | 0 | 0 | 0 | 0 | 1 | TBXAS1 |
| 233 | 0 | 0 | 0 | 0.5 | 2 | PTPRF |
| 234 | 1 | 0 | 1 | 0 | 1 | PYGL |
| 235 | 1 | 0 | 1 | 0 | 1 | RBP4 |
| 236 | 2.875 | 0 | 0.347826 | 0 | 1 | RORB |
| 237 | 1 | 0 | 1 | 0 | 1 | SAE1 |
| 238 | 0 | 0 | 0 | 0 | 1 | UBA2 |
| 239 | 1 | 0 | 1 | 0 | 1 | SLC22A6 |
| 240 | 0 | 0 | 0 | 0 | 1 | SLC6A2 |
| 241 | 1 | 0 | 1 | 0.5 | 2 | TRPM8 |

**Table S3.** The top twenty KEGG pathways of potential genes between the bioactive compounds of the ethyl acetate extract of *C. amboinicus* leaves and breast cancer

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Enrichment FDR** | **nGenes** | **Pathway Genes** | **Fold Enrichment** | **Pathway** | **Genes** |
| 1 | 1.45E-14 | 10 | 17 | 52.37125 | Path: hsa00910 Nitrogen metabolism | CA14, GLUL, CA13, CA1, CA2, CA3, CA4, CA5A, CA6, CA9 |
| 2 | 9.51E-15 | 17 | 92 | 16.4514 | Path: hsa05222 small cell lung cancer | CDK2, IKBKB, ITGA2B, ITGAV, ITGB1, NOS2, PIK3CA, PIK3CB, PTGS2, RARB, BCL2, RXRA, RXRG, TP53, CASP3, CCNE1, CCNE2 |
| 3 | 1.76E-14 | 17 | 97 | 15.60339 | Path: hsa05215 Prostate cancer | CDK2, EGFR, ERBB2, IKBKB, AR, MDM2, MMP3, MMP9, PIK3CA, PIK3CB, MAPK1, BCL2, SRD5A2, BRAF, TP53, CCNE1, CCNE2 |
| 4 | 2.99E-12 | 15 | 95 | 14.05755 | Path: hsa01522 Endocrine resistance | MAPK14, EGFR, ERBB2, ESR1, ESR2, MDM2, MMP2, MMP9, PIK3CA, PIK3CB, MAPK1, MAPK10, BCL2, BRAF, TP53 |
| 5 | 5.80E-13 | 16 | 102 | 13.96567 | Path: hsa04914 Progesterone-mediated oocyte maturation | CDK2, MAPK14, PGR, PIK3CA, PIK3CB, MAPK1, MAPK10, BRAF, AURKA, CCNB3, CCNB1, CCNB2, CDK1, CDC25A, CDC25B, CDC25C |
| 6 | 1.37E-12 | 16 | 108 | 13.1898 | Path: hsa04931 Insulin resistance | NR1H3, IKBKB, IL6, PIK3CA, PIK3CB, PPARA, PRKAA2, PRKAB1, PRKAG1, MAPK10, PTPN1, PTPN11, PTPRF, PYGL, PYGM, STAT3 |
| 7 | 1.45E-14 | 19 | 131 | 12.91291 | Path: hsa04068 FoxO signaling pathway | CDK2, PLK4, MAPK14, EGFR, IKBKB, IL6, MDM2, PIK3CA, PIK3CB, PRKAA2, PRKAB1, PRKAG1, MAPK1, MAPK10, BRAF, STAT3, CCNB3, CCNB1, CCNB2 |
| 8 | 4.72E-16 | 22 | 162 | 12.09065 | Path: hsa05161 Hepatitis B | CDK2, MAPK14, PTK2B, IKBKB, IL6, CXCL8, JAK3, MMP9, PIK3CA, PIK3CB, MAPK1, MAPK10, BCL2, SLC10A1, BRAF, STAT3, TLR4, TP53, CASP3, CASP8, CCNE1, CCNE2 |
| 9 | 4.06E-14 | 20 | 161 | 11.05977 | Path: hsa05206 MicroRNAs in cancer | EGFR, ERBB2, IKBKB, ITGB3, MCL1, MDM2, MMP9, ABCB1, PIK3CA, PIK3CB, MAPK1, PTGS2, BCL2, STAT3, TP53, CASP3, CCNE1, CCNE2, CDC25A, CDC25B |
| 10 | 2.48E-13 | 19 | 155 | 10.91349 | Path:hsa04932 Non-alcoholic fatty liver disease | NR1H3, MAPK14, ERN1, GSK3A, IKBKB, IL6, CXCL8, PIK3CA, PIK3CB, PPARA, PPARG, PRKAA2, PRKAB1, PRKAG1, MAPK10, RXRA, CASP3, CASP7, CASP8 |
| 11 | 5.14E-12 | 17 | 139 | 10.8887 | Path:hsa05162 Measles | CDK2, CSNK2A1, IKBKB, IL6, JAK3, PIK3CA, PIK3CB, TLR9, MAPK10, BCL2, STAT3, TLR4, TP53, CASP3, CASP8, CCNE1, CCNE2 |
| 12 | 1.19E-17 | 26 | 214 | 10.81687 | Path: hsa05417 Lipid and atherosclerosis | MAPK14, CYP2A6, CYP2C9, ERN1, ICAM1, IKBKB, IL6, CXCL8, MMP1, MMP3, MMP9, NFE2L2, PIK3CA, PIK3CB, PPARG, MAPK1, MAPK10, BCL2, RXRA, RXRG, STAT3, TLR4, TP53, CASP3, CASP7, CASP8 |
| 13 | 2.77E-14 | 22 | 202 | 9.69646 | Path: hsa05205 Proteoglycans in cancer | MAPK14, EGFR, ERBB2, ESR1, ITGAV, ITGB1, ITGB3, ITGB5, KDR, MDM2, MMP2, MMP9, PIK3CA, PIK3CB, MAPK1, PTPN6, PTPN11, BRAF, STAT3, TLR4, TP53, CASP3 |
| 14 | 3.34E-15 | 24 | 224 | 9.539049 | Path: hsa05163 Human cytomegalovirus infection | CCR1, CCR5, MAPK14, EGFR, PTK2B, IKBKB, IL6, CXCL8, CXCR2, ITGAV, ITGB3, MDM2, PIK3CA, PIK3CB, MAPK1, PTGER1, PTGER2, PTGER3, PTGER4, PTGS2, STAT3, TP53, CASP3, CASP8 |
| 15 | 1.48E-11 | 19 | 197 | 8.586759 | Path: hsa05207 Chemical carcinogenesis-receptor activation | CYP1A2, CYP3A4, EGFR, EPHX1, ESR1, ESR2, AR, PGR, PIK3CA, PIK3CB, PPARA, MAPK1, BCL2, RXRA, RXRG, STAT3, UGT2B7, VDR, CDC25A |
| 16 | 2.20E-11 | 19 | 202 | 8.374215 | Path: hsa05169 Epstein-Barr virus infection | CDK2, MAPK14, ICAM1, IKBKB, IL6, ITGAL, JAK3, MDM2, PIK3CA, PIK3CB, MAPK10, BCL2, STAT3, SYK, TP53, CASP3, CASP8, CCNE1, CCNE2 |
| 17 | 2.21E-18 | 33 | 362 | 8.116097 | Path: hsa04080 Neuroactive ligand-receptor interaction | CHRM1, CNR1, CNR2, ADORA3, ADRA2B, CTSG, AGTR1, GABRA1, GABRA2, GABRA3, GABRA5, GABRG2, NR3C1, GRM5, HCRTR2, MTNR1A, MTNR1B, OPRD1, OPRM1, P2RX3, P2RX7, PTGDR, PTGER1, PTGER2, PTGER3, PTGER4, PTGFR, THRA, THRB, TRPV1, CCKAR, CCKBR, S1PR2 |
| 18 | 4.73E-26 | 47 | 530 | 7.895213 | Path: hsa05200 Pathways in cancer | CDK2, AGTR1, EGFR, ERBB2, ESR1, ESR2, IKBKB, IL6, CXCL8, AR, ITGA2B, ITGAV, ITGB1, JAK3, KIT, MDM2, MMP1, MMP2, MMP9, NFE2L2, NOS2, PIK3CA, PIK3CB, PPARD, PPARG, MAPK1, MAPK10, PTGER1, PTGER2, PTGER3, PTGER4, PTGS2, RARA, RARB, BCL2, RXRA, RXRG, BRAF, STAT3, TERT, TP53, CASP3, CASP7, CASP8, CCNE1, CCNE2, KEAP1 |
| 19 | 4.17E-16 | 30 | 354 | 7.545011 | Path: hsa04151 PI3K-Akt signaling pathway | CDK2, CHRM1, EGFR, ERBB2, FLT1, IKBKB, IL6, ITGA2B, ITGA4, ITGAV, ITGB1, ITGB3, ITGB5, ITGB6, JAK3, KDR, KIT, MCL1, MDM2, PIK3CA, PIK3CB, PRKAA2, MAPK1, BCL2, RXRA, SYK, TLR4, TP53, CCNE1, CCNE2 |
| 20 | 8.58E-18 | 63 | 1538 | 3.646919 | Path: hsa01100 Metabolic pathways | AKR1A1, AKR1C4, CA5B, CYP1A2, CYP2A6, CYP2C19, CYP2C9, CYP3A4, CYP17A1, CYP19A1, CYP26A1, CYP51A1, AKR1B1, CA14, ALOX12, ALOX15, G6PD, AMPD1, AMPD2, AMPD3, GLUL, HMGCR, HSD11B1, HSD11B2, IMPDH1, IMPDH2, IDO1, CA13, STS, MAOB, NOS2, PDE4A, PDE4C, PDE4D, PDE9A, ENPP2, ACP1, PIK3CA, PIK3CB, PLA2G1B, PLA2G4A, AKR1B10, PTGS1, PTGS2, PYGL, PYGM, SCD, SRD5A2, TBXAS1, TYMS, UGT2B7, CA1, CA2, CA3, CA4, CA5A, CA6, CA9, CA12, PTGES2, AKR1C3, PDE5A, PTGES |