Supplementary Table 9 Metabolites detected in all two-year’s samples of plants in both North Carolina and India are grouped to compare their dynamic trends.

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| Groups | Name of metabolites  |
| Mono-terpenoid(4) | L-Limonene (C10H16) |
| Bicyclo[2.2.1]hept-2-ene, 1,7,7-trimethyl- (C10H16) |
| D-Limonene (C10H16) |
| Cyclopropane, 1,2-dimethyl-3-pentyl-( C10H20) |
| sesquiterpenoid(6) | Bicyclo[4.3.0]nonane, 7-methylene-2,4,4-trimethyl-2-vinyl- (C15H24) |
| 9-(3,3-Dimethyloxiran-2-yl)-2,7-dimethylnona-2,6-dien-1-ol (C15H26O2) |
| Solavetivone (C15H22O) |
| Spiro[4.5]decan-7-one, 1,8-dimethyl-8,9-epoxy-4-isopropyl-(C15H24O2) |
| 1-Hydroxy-1,7-dimethyl-4-isopropyl-2,7-cyclodecadiene (C15H26O) |
| 1s,4R,7R,11R-1,3,4,7-Tetramethyltricyclo[5.3.1.0(4,11)]undec-2-en-8-one (C15H22O) |
| Diterpenoids (6) | Phytol (C20H40O) |
| Andrographolide(C20H30O5) |
| Thunbergol (C20H34O) |
| (E,E)-7,11,15-Trimethyl-3-methylene-hexadeca-1,6,10,14-tetraene (C20H32) |
| 4,8,13-Cyclotetradecatriene-1,3-diol, 1,5,9-trimethyl-12-(1-methylethyl)- (C20H34O2) |
| Phytol, acetate (C22H42O2) |
| Triterpenoid(5) | beta-Amyrin (C30H50O) |
| Squalene (C30H50) |
| Stigmasterol (C29H48O) |
| Vitamin E (C29H50O2) |
| Ergost-5-en-3-ol, (3.beta.)- (C28H48O) |
| Nicotine | Nicotine |
| Benzenes (3) | Benzene, (1-butylheptyl)- (C17H28) |
| Benzene, (1-pentylheptyl)- (C18H30) |
| Benzene, 1,3-bis(1-formylethyl)- (C12H14O2) |
| PAH (2) | Naphthalene (C10H8) |
| Naphthalene, decahydro-2,3-dimethyl- (C12H22) |
| Amino acid (13) | Alanine |
| Glumamic acid |
| Glycine |
| Asparagine |
| Aspartic acid |
| Glutamine |
| Leucine |
| Proline |
| threonine |
| Tryptophan |
| Tyrosine |
| phenylalanine |
| Serine |
| Organic acid In TCA (3) | Citric acid |
| Fumaric acid |
| Succinic acid |
| Sugar (9) | Galactose |
| Glucose |
| Galactinol |
| Fructose |
| Xylose |
| Maltose |
| Mannose |
| Arabinose |
| Sorbitol |
| Nitrogen-containing secondary metabolites (5) | Nornicotine |
| Nicotine, 1'-demethyl |
| 1,2,3,6-Tetrahydro-2,3'-bipyridine |
| Phenylamine, 3-(pyrrolidin-1-yl)- |
| 3-hydroxypyridine |
| polyphenol (2) | cinnamate  |
| Scopolin |