Supplementary Tables

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| **Table S1.** Concentrations (mg g-1C) of extracted substituted fatty acids (SFA) and SVC-Lignin**,** S-to-V ratio (S/V), C-to-V ratio, and decay state (acid (Ac) to aldehyde (Ad) ratio for S- and V-Lignin classes) of lignin-derived phenols. |
| Component | Age | Variety | ∑SFA  | ∑SVC  | Ac/Ad(V) | Ac/Ad(S) | C/V | S/V |
| Roots: | 0M | PMxD | 9.34 | 154.57 | 0.12 | 0.13 | 1.08 | 0.82 |
| Purple | 11.18 | 139.77 | 0.14 | 0.13 | 1.09 | 0.66 |
| Bana | 11.32 | 129.75 | 0.12 | 0.13 | 1.05 | 0.59 |
| Merkeron | 10.66 | 131.79 | 0.14 | 0.13 | 0.97 | 0.65 |
| 3M | PMxD | 10.40 | 161.38 | 0.13 | 0.13 | 1.05 | 0.79 |
| Purple | 11.23 | 127.02 | 0.26 | 0.23 | 0.76 | 0.52 |
| Bana | 10.74 | 151.84 | 0.14 | 0.12 | 0.87 | 0.54 |
| Merkeron | 10.23 | 150.43 | 0.17 | 0.14 | 0.65 | 0.47 |
| 8M | PMxD | 12.53 | 153.11 | 0.17 | 0.16 | 0.90 | 0.69 |
| Purple | 10.04 | 61.55 | 0.25 | 0.19 | 1.01 | 0.65 |
| Bana | 18.62 | 133.89 | 0.20 | 0.16 | 0.68 | 0.40 |
| Merkeron | 13.14 | 139.87 | 0.17 | 0.15 | 0.77 | 0.55 |
| Occluded light fraction: | 2010 | CB | 11.52 | 40.19 | 0.42 | 0.44 | 0.67 | 0.83 |
| PMxD | 14.60 | 35.99 | 0.39 | 0.42 | 0.59 | 0.85 |
| Purple | 16.57 | 41.10 | 0.37 | 0.40 | 0.68 | 0.86 |
| Bana | 15.10 | 42.25 | 0.36 | 0.38 | 0.60 | 0.83 |
| Merkeron | 12.03 | 38.78 | 0.40 | 0.43 | 0.66 | 0.87 |
| 2011 | CB | 15.64 | 30.52 | 0.40 | 0.44 | 0.58 | 0.83 |
| PMxD | 14.78 | 42.76 | 0.34 | 0.37 | 0.76 | 0.91 |
| Purple | 21.03 | 39.37 | 0.36 | 0.36 | 0.87 | 0.97 |
| Bana | 17.68 | 48.10 | 0.35 | 0.34 | 0.94 | 0.97 |
| Merkeron | 15.84 | 41.17 | 0.32 | 0.34 | 0.91 | 0.96 |
| 2012 | CB | 15.01 | 26.10 | 0.48 | 0.55 | 0.62 | 0.80 |
| PMxD | 17.40 | 40.22 | 0.42 | 0.44 | 0.86 | 0.93 |
| Purple | 17.16 | 27.62 | 0.36 | 0.38 | 0.88 | 0.84 |
| Bana | 15.99 | 27.43 | 0.37 | 0.39 | 0.86 | 0.81 |
| Merkeron | 14.82 | 22.86 | 0.38 | 0.41 | 0.75 | 0.83 |
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| **Table S2.** Correlations between quantified lignin-derived phenols and SFAs and the first two axes of the PCA. The amount of variation explained by each axis is in parentheses. |
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| Variable | Axis 1 (55.85%) | Axis 2 (15.61%) |
| *p*-hydroxybenzaldehyde | -0.964 | 0.062 |
| *p*-hydroxyacetophenone | -0.977 | 0.017 |
| Vanillin | 0.900 | -0.210 |
| Acetovanillone | -0.360 | -0.516 |
| *p*-hydroxybenzoic acid | -0.915 | -0.077 |
| Syringaldehyde | 0.249 | 0.161 |
| Vanillic acid | -0.814 | -0.393 |
| Acetosyringone | -0.930 | -0.050 |
| Syringic acid | -0.964 | -0.141 |
| *p*-hydroxycinnamic acid | 0.899 | 0.370 |
| Ferulic acid | -0.218 | 0.128 |
| C16 | -0.551 | 0.785 |
| C18 | -0.257 | 0.310 |
| -C16 | 0.877 | -0.299 |
| C16DA | 0.650 | -0.539 |
| -C18:1 | 0.688 | -0.542 |
| 8 -C16 | -0.092 | -0.797 |
| 9 -C16 | -0.898 | -0.172 |
| 10 -C16 | -0.635 | -0.628 |
| C18:1DA | 0.940 | 0.036 |
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