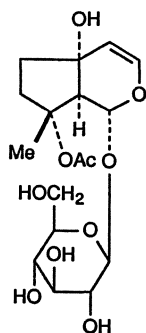
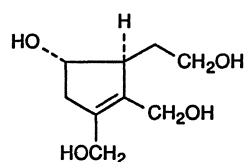


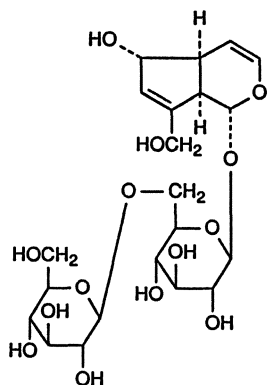
Ajugoside (65-4)



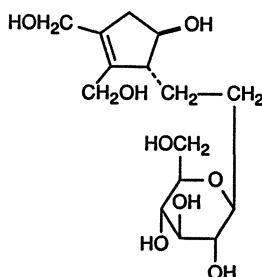
Reptoside (65-5)



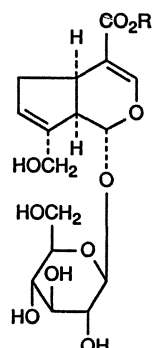
Eucommiol (65-6)



Ulmoside (65-7)



Eucommioside I (65-8)

Geniposidic acid (65-9): R=H  
Geniposide (65-10): R=CH<sub>3</sub>

Lignans were first defined as plant products with a carbon skeleton having two *n*-propylbenzene residues linked by the  $\beta$ -carbon atoms of the side chain [7]. The term was later extended to cover all natural products of low molecular weight that arise primarily from the oxidative coupling of *p*-hydroxyphenylpropene units, a concept which also refers to variants of skeletons in which the two units are linked by an oxygen bridge. Four such units seem to be involved. They are: cinnamic acid (exceptionally cinnamic aldehyde), cinnamic alcohol, propenylbenzene, and allylbenzene. Since most of the early isolated lignans are derived from coupling of acid and/or alcohol, the term lignan is retained for this group. The propenyl and/or allyl derivatives are termed neolignans [8, 9]. Lignans present in the bark of *E. ulmoides* are mostly derived from a bisbenzyl-perhydrofuro[3,4-*c*]furan skeleton.

New lignan glycosides medioresinol di-*O*- $\beta$ -D-glucopyranoside (65-11) [10], olivil di-*O*- $\beta$ -D-glucopyranoside (65-12), hydroxypinoresinol di-*O*- $\beta$ -D-glucopyranoside (65-13), medioresinol 4'-*O*- $\beta$ -D-glucopyranoside named eucommin A (65-14) [11], and hydroxypinoresinol 4''-*O*- $\beta$ -D-glucopyranoside (65-15) [12] were isolated from the bark of *E. ulmoides*, in addition to the known lignan compounds pinoresinol di-*O*- $\beta$ -D-glucopyranoside (65-16) [10, 13], liriodendrin (65-17), pinoresinol *O*- $\beta$ -D-glucopyranoside [4], syringaresinol *O*- $\beta$ -D-glucopyranoside (65-18) [11], hydroxypinoresinol 4'-*O*- $\beta$ -D-glucopyranoside (65-19), cycloolivil (65-20), and olivil