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Chemical Constituents and Pharmacological Activities of *Stellera chamaejasme*

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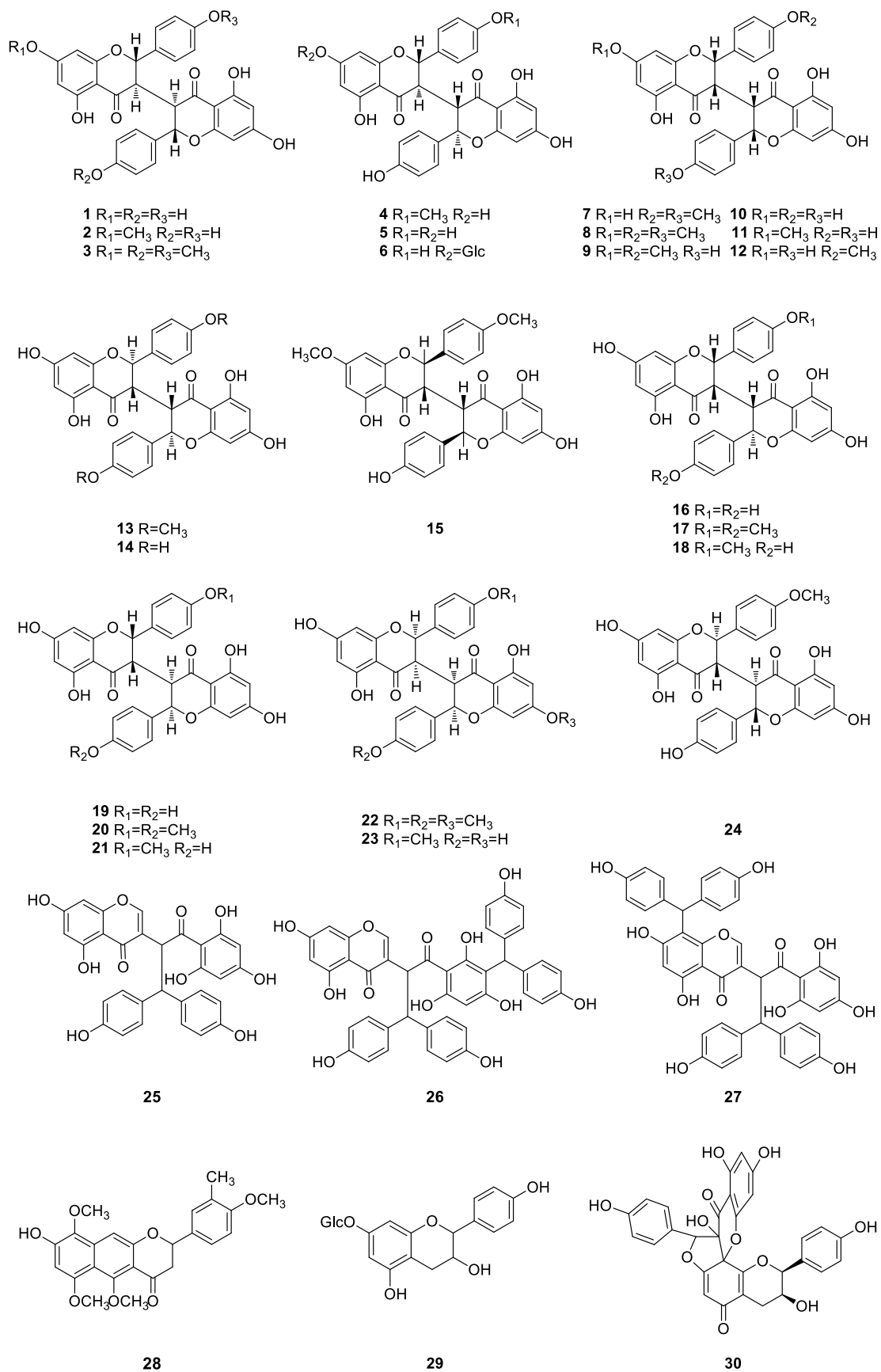
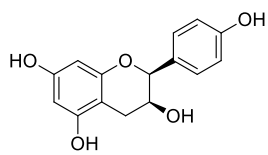
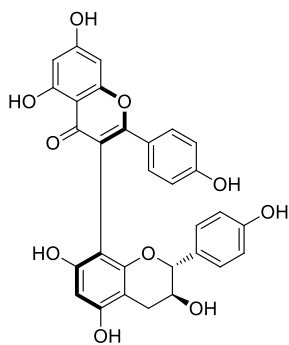


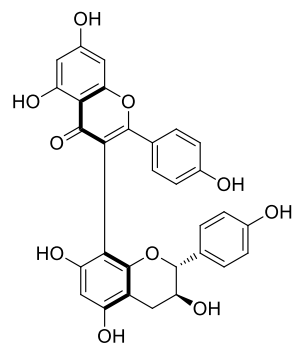
Fig. (1). Flavonoids from *S. Chamaejasme*.



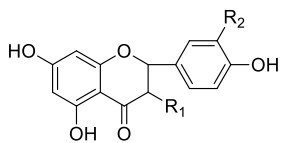
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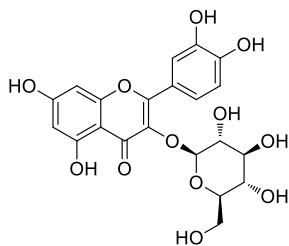


34 $R_1=R_2=H$

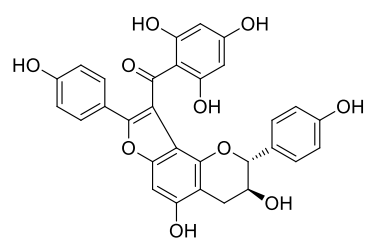
35 $R_1=R_2=OH$

36 $R_1=Glc-Glc$ $R_2=OH$

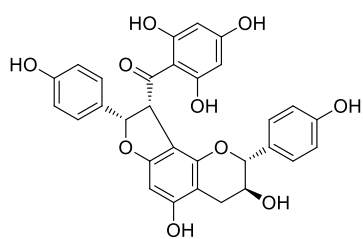
37 $R_1=OH$ $R_2=H$



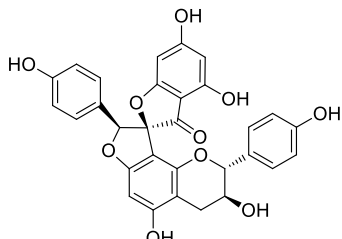
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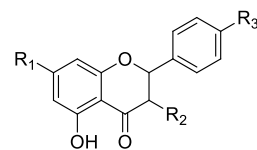
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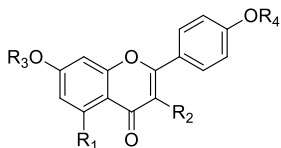
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42 $R_1=OH$ $R_2=H$ $R_3=OH$

43 $R_1=OCH_3$ $R_2=H$ $R_3=OH$

44 $R_1=OH$ $R_2=OH$ $R_3=H$



45 $R_1=R_2=R_3=H$ $R_4=CH_3$

46 $R_1=R_2=OH$ $R_3=glc$ $R_4=H$

Fig. (1). Flavonoids from *S. Chamaejasme* (continued).

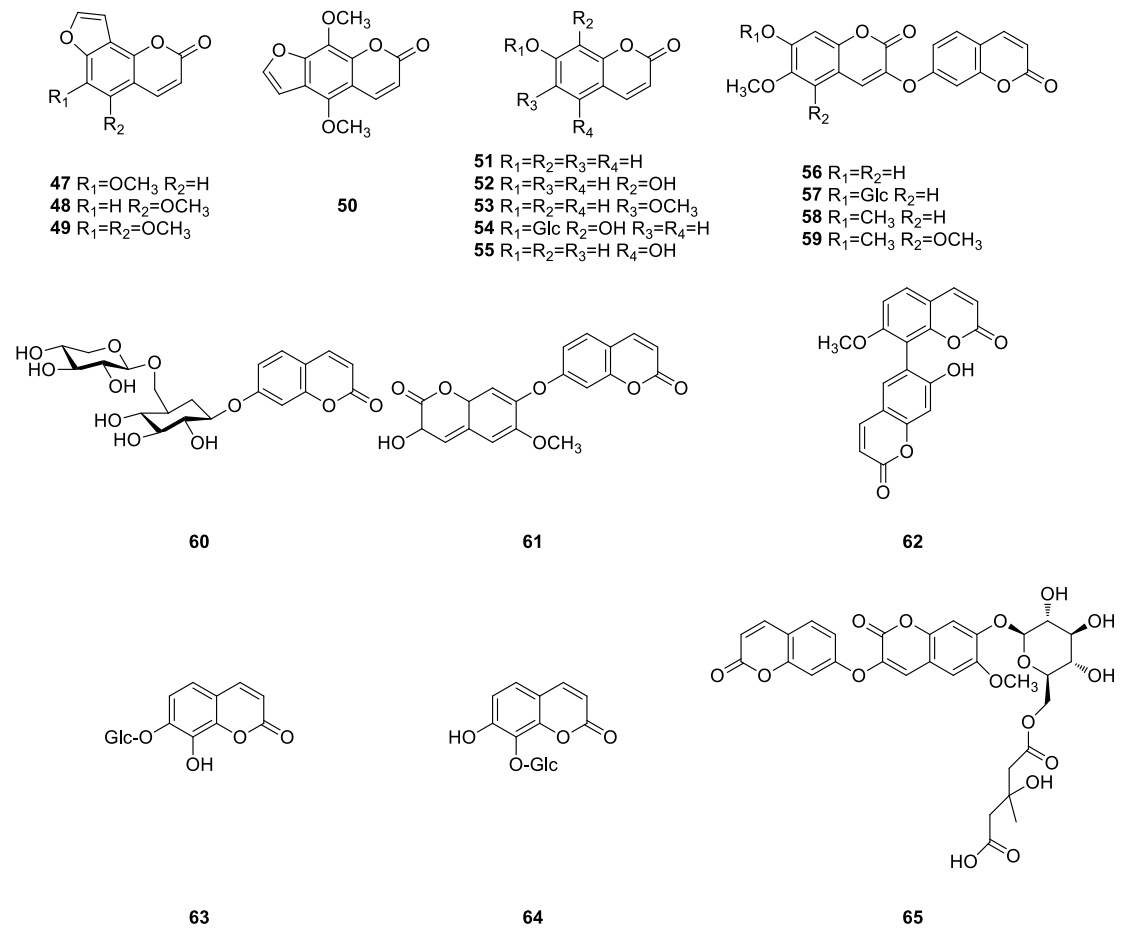
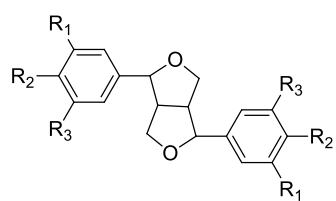
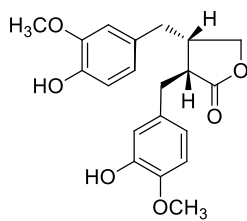


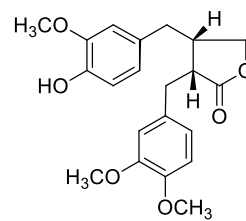
Fig. (2). Coumarins from *S. Chamaejasme*.



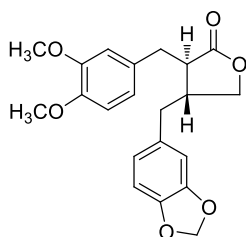
- 66 R₁=R₃=OCH₃ R₂=OH
 67 R₁=H R₂=OH R₃=OCH₃
 68 R₁=R₂=OCH₃ R₃=H
 69 R₁=R₃=OCH₃ R₂=O-Glc



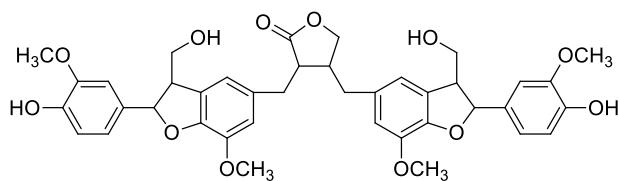
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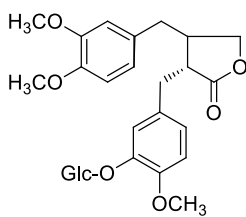
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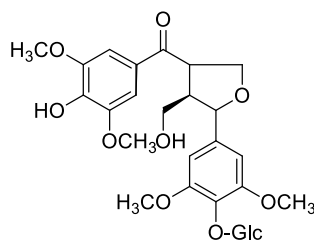
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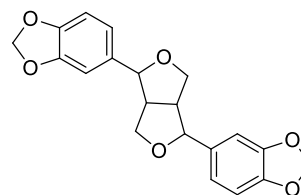
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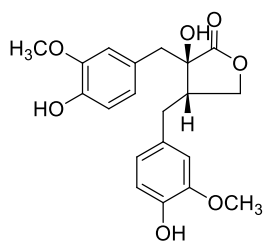
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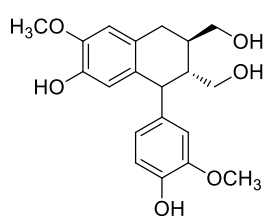
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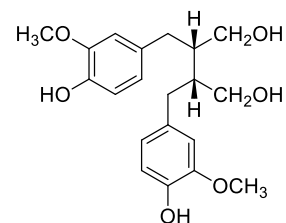
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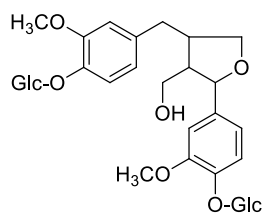
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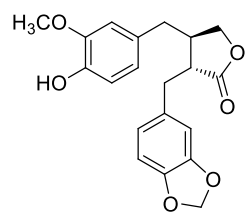
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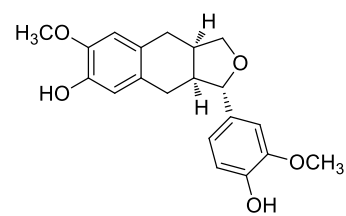
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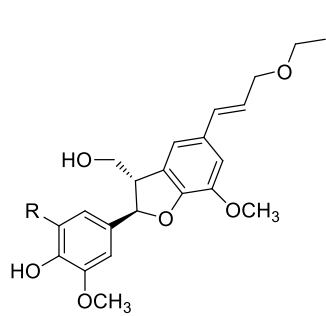


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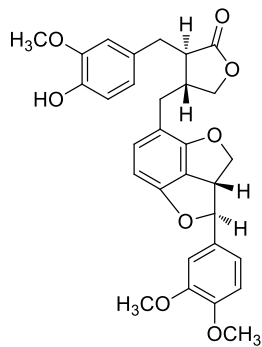


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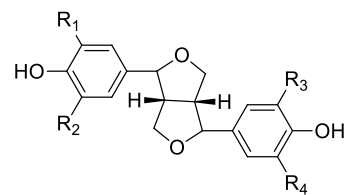
Fig. (3). Lignans from *S. Chamaejasme*.



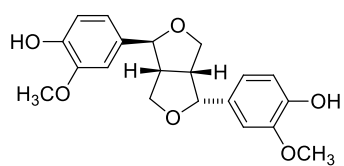
83 R=H
84 R=OCH₃



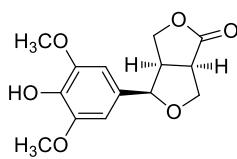
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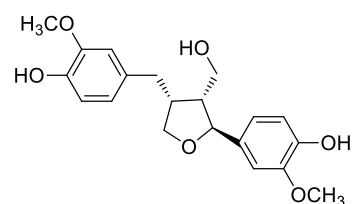
86 R₁=R₂=R₃=R₄=OCH₃
87 R₁=H R₂=R₃=R₄=OCH₃



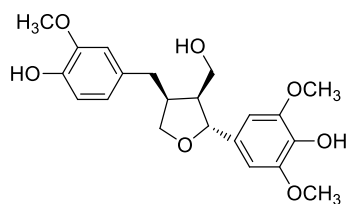
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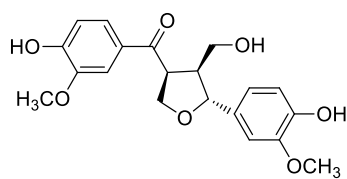
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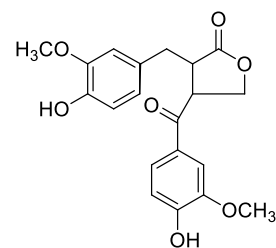
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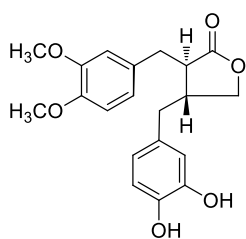
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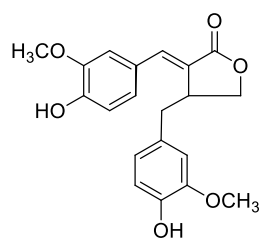
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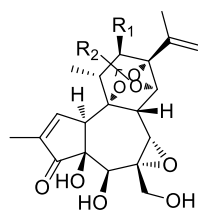


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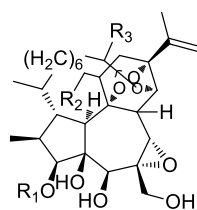


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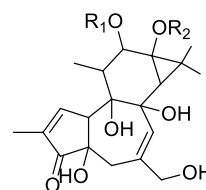
Fig. (3). Lignans from *S. Chamaejasme* (continued).



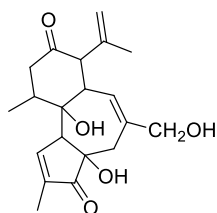
- 96 $R_1=H$ $R_2=(CH=CH)_2(CH_2)_8CH_3$
 97 $R_1=OAc$ $R_2=(CH=CH)_2(CH_2)_8CH_3$
 98 $R_1=H$ $R_2=(CH_2)_8CH_3$
 99 $R_1=OH$ $R_2=(CH=CH)_2(CH_2)_8CH_3$



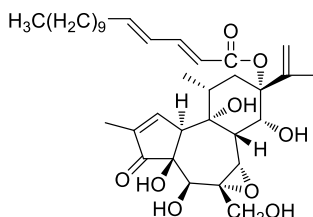
- 100 $R_1=PhCO$ $R_2=R_3=H$
 101 $R_1=Bz$ $R_2=BzO$ $R_3=OH$
 102 $R_1=H$ $R_2=PhCOO$ $R_3=OH$



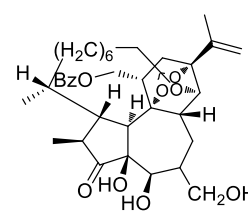
- 103 $R_1=PhCO$ $R_2=CH_3(CH_2)_3CO$
 104 $R_1=R_2=CH_3CO$
 105 $R_1=CH_3CO$ $R_2=PhCO$
 106 $R_1=PhCO$ $R_2=CH_3(CH_2)_6CO$



107

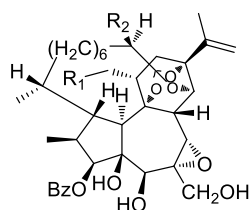


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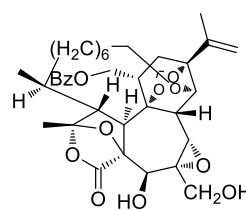
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Bz=benzyl

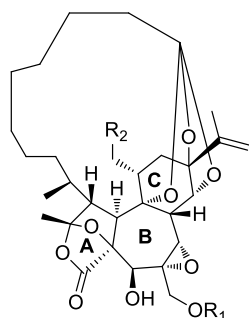


- 110 $R_1=OAc$ $R_2=OH$
 111 $R_1=OBz$ $R_2=H$

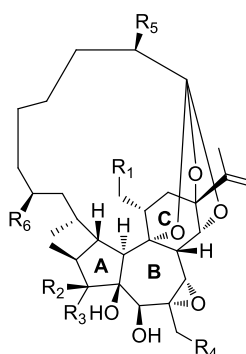
Ac=acetyl



112



- 113 $R_1=A$ $R_2=OBz$
 114 $R_1=B$ $R_2=OBz$
 120 $R_1=R_2=H$



- 115 $R_1=OAc$ $R_2=OBz$ $R_3=H$ $R_4=OH$ $R_5=OH$ $R_6=OBz$
 116 $R_1=OBz$ $R_2=OBz$ $R_3=H$ $R_4=OH$ $R_5=OH$ $R_6=OBz$
 117 $R_1=OBz$ $R_2=OH$ $R_3=H$ $R_4=OBz$ $R_5=OH$ $R_6=H$

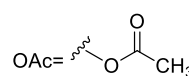
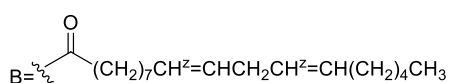
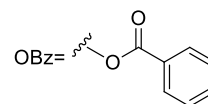
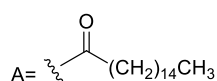
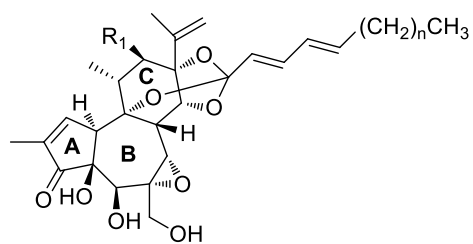
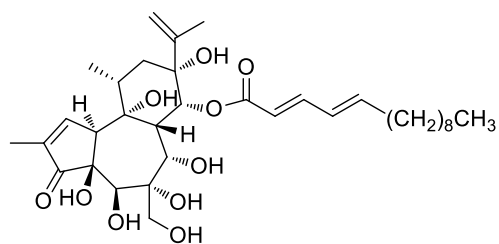


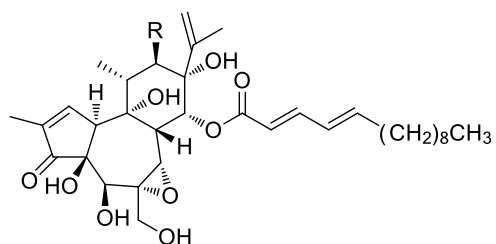
Fig.(4). Diterpenes from *S. Chamaejasme*.



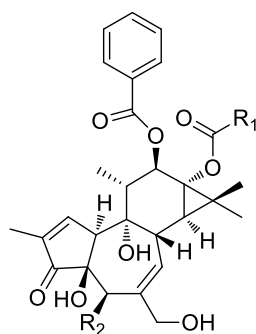
- 118 R₁=OH n=9
 121 R₁=OAc n=8
 122 R₁=OAc n=9
 123 R₁=H n=9



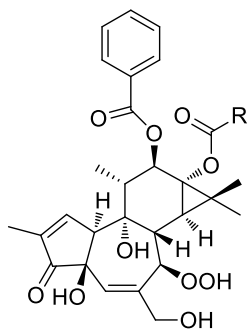
119



- 124 R=H
 125 R=OAc



- 126 R₁=(CH₂)₈CH₃ R₂=H
 127 R₁=(CH₂)₆CH₃ R₂=H
 128 R₁=(CH₂)₂(CH^z=CH)(CH₂)₄CH₃ R₂=H
 129 R₁=(CH₂)₂(CH^z=CH)CH₂(CH^z=CH)CH₂CH₃ R₂=H
 130 R₁=(CH₂)₆CH₃ R₂=OH



- 131 R=(CH₂)₈CH₃
 132 R=(CH₂)₆CH₃

Fig.(4). Diterpenes from *S. Chamaejasme* (continued).

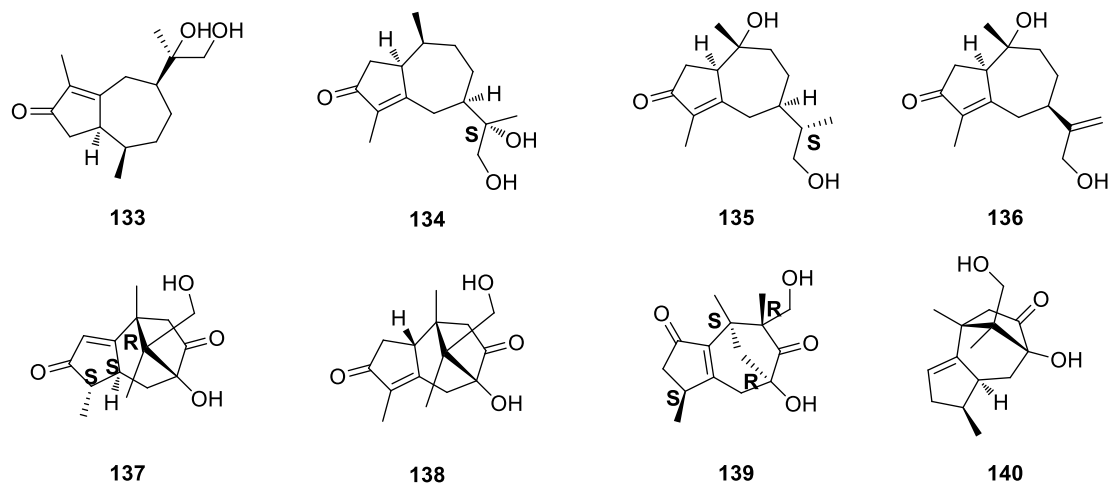
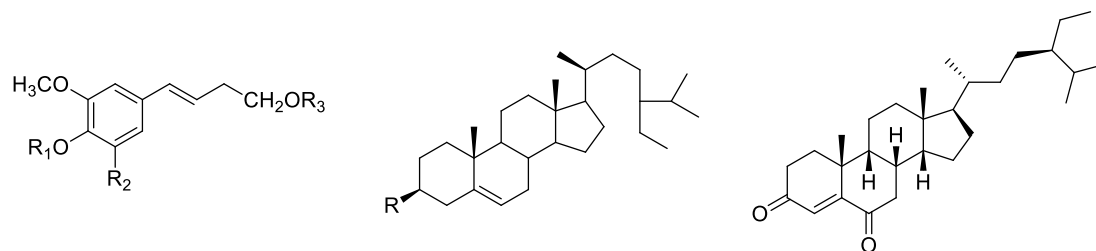


Fig. (5). Sesquiterpenes from *S. Chamaejasme*.



- 141 $R_1 = \beta$ -D-Glc $R_2 = R_3 = H$
 142 $R_1 = R_2 = H$ $R_3 = OCH_3$
 143 $R_1 = \beta$ -D-Glc $R_2 = OCH_3$ $R_3 = H$
 144 $R_1 = H$ $R_2 = OCH_3$ $R_3 = \beta$ -D-Glc
 145 cis-isomer of 143
 146 $R_1 = R_3 = \beta$ -D-Glc $R_2 = OCH_3$

- 147 $R = OH$
 148 $R = O-Glc$

149

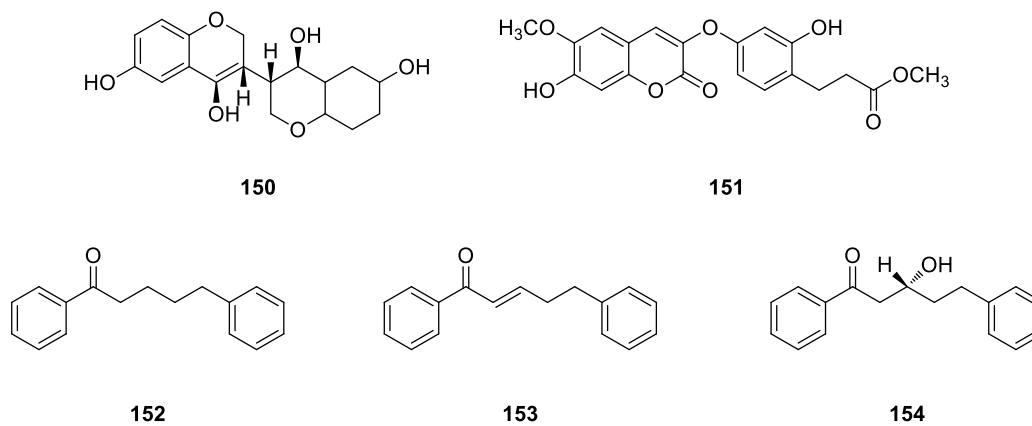


Fig. (6). Other components from *S. Chamaejasme*.