

Flavanolignans from *Silybum marianum* L. - chemistry and characterization as primary phyproof® reference substances

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Since ancient times milk thistle (*Silybum marianum* L.) fruits are known to have medicinal properties. The active principle is a mixture of various flavanolignans known as silymarin. According to the Pharmacopoea Europaea silymarin is a mixture of silybin A and B, isosilybin A and B, silychristin and silydianin. So far, the pure diastereoisomers were not commercially available, and thus the isomeric pairs were used for analytical purposes as well as in pharmacological research. For the first time, the isolated flavanolignans silybin A and B, isosilybin A and B, silychristin, silydianin as well as 2,3-dehydrosilybin A and B were characterized as primary reference substances according to international guidelines. These compounds, now available in a certified quality for the first time, can be applied in the quality control of milk thistle preparation as well as in pharmacological research.