

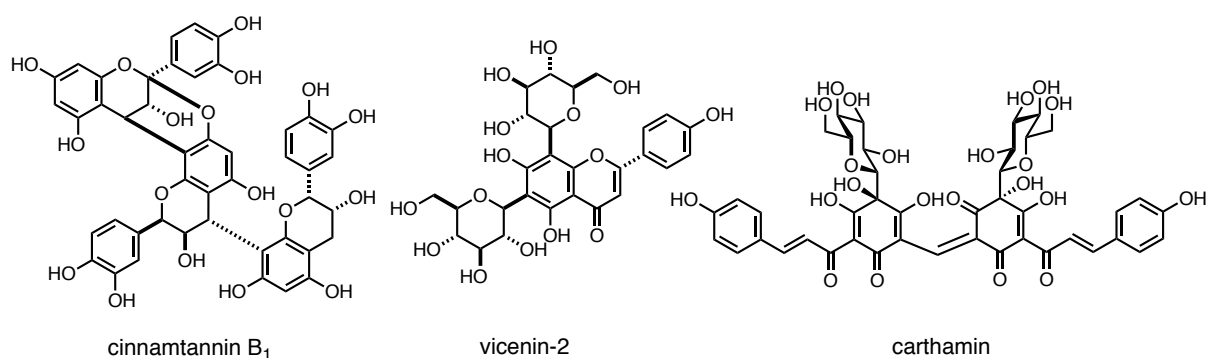
Total Syntheses of Complex and Structurally Unusual Natural Flavonoids

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Although natural polyphenols have long played a part in human life as ingredients of wine, tea, or herbal medicines, their biological functions had not been unveiled at the molecular level yet. Unfortunately, these sources generally produce a mixture of closely related compounds, not readily separable even with the modern chromatographic and analytical methods. The difficulty securing pure samples of these materials, coupled with their promising and powerful biological activities, offers us an enticing challenge to organic synthesis for supplying valuable, homogeneous samples for biological testing. Recently, we have developed efficient synthetic routes to several flavo-polyphenols, e.g., cinnamtannin B₁,¹ vicenin-2² and carthamin,³ by exploiting the carbocation-mediated annulation, the group-selective transformation, and the S_NAr reaction of aryl fluorides, etc. In this lecture, I will present the basics of the strategies and methodologies for the syntheses.



References

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