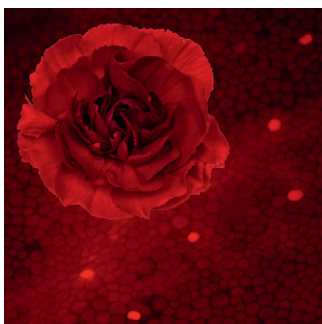


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ON THE COVER



The rich variety of flower colors in plants in large part is due to the presence of anthocyanins, in particular, their modification with glycosyl and acyl moieties giving rise to a panoply of molecular variants with different color properties. Matsuba et al. (pages 3374–3389) show that glucosylation of anthocyanin at the 5/7 position in the petals of carnation (*Dianthus caryophyllus*) and delphinium (*Delphinium grandiflorum*) is carried out in an unusual fashion involving aromatic acyl-glucoses as sugar donors. The enzymes catalyzing this reaction were identified as acyl-glucose-dependent glucosyltransferases belonging to the glycoside hydrolase 1 family. Phylogenetic analysis reveals that other plant species are likely to have similar acyl-glucose-dependent glucosyltransferases, suggesting that these enzymes may contribute to generating variation in anthocyanins, and thus flower color, in a variety of species.

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[C](#) Some figures in this article are displayed in color online but in black and white in the print edition.

[W](#) Online version contains Web-only data.

[OA](#) Open Access articles can be viewed online without a subscription.



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