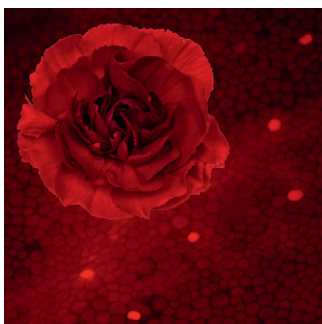


T H E  
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**ON THE COVER**



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.

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