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Plumage pigments identification by High-performance liquid chromatography

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Summary: As one of the most recognizable characteristics in birds, plumage colour has a high impact on understanding the evolution and mechanisms of colouration. Feather and skin are ideal tissues to explore the genomics and complexity of colour patterns in vertebrates. Two species of the genus Chrysolophus, golden pheasant (Chrysolophus pictus) and Lady Amherst's pheasant (Chrysolophus amherstiae), exhibit brilliant colours in their plumage, but with extreme phenotypic differences, making these two species great models to investigate plumage colouration mechanisms in birds. Here we provide details of the protocols used for plumage pigments identification by High-performance liquid chromatography. The fat-soluble pigments (carotenoids) and oxidation products of melanins (TTCA and PTCA) can be qualitatively and quantificationally analyzed by HPLC with the corresponding standards, respectively.

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