

## DNA Intercalating Alkaloids Isolated from *Chelidonium majus* (Papaveraceae)

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**Abstract :** DNA intercalating agents increase the stability of DNA which can be demonstrated by measuring the melting temperature  $T_m$ .  $T_m$  can be determined in a spectrophotometer in which the cell temperature is increased gradually. The resulting absorption data comes as a sigmoidal curve from which melting temperature can be determined when half of the DNA has denatured. The current study aims to assess DNA intercalating activities of four pure bioactive isoquinoline alkaloids: sanguinarine, berberine, allocryptopine, and chelerythrine which were isolated from *Chelidonium majus* (Papaveraceae) by repeated silica gel column chromatography, recrystallization and preparative TLC. The isolated compounds were identified by comparing their physical properties and mass spectra with those of the published data. The results showed that sanguinarine is the most active intercalating agent with  $T_m$  value of  $83.55 \pm 0.49$  followed by berberine, chelerythrine, and allocryptopine with  $T_m$  values  $62.58 \pm 0.47$ ,  $51.38 \pm 0.37$  and  $50.94 \pm 0.65$ , respectively, relative to  $49.78 \pm 1.05$  of bacteriophage DNA alone and  $86.09 \pm 0.5$  for ethidium bromide as a positive control.

**Keywords :** alkaloids, *Chelidonium majus*, DNA intercalation,  $T_m$

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