Abstract

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Unsymmetrical dialkylamino substituted azaphthalocyanines (AzaPcs) have unique photophysical properties – light absorption between 300 and 700 nm, almost no self-fluorescence and ability to quench fluorescence of other compounds. This makes AzaPcs suitable candidates for universal dark quenchers which can be used in real time PCR. In this work, we tried to evaluate differences in quenching between probes labeled in different positions of oligodeoxynucleotide (ODN) chain. Two quenchers bearing different functional groups suitable for different connection to ODN were synthetized (see Fig.). Following the synthesis of the quencher, three different probes were prepared– the first with the quencher in the middle of ODN chain (Fig. A), the second with the quencher attached at the end of ODN chain (Fig. B), and the third with the quencher in the middle and at the end of ODN chain (Fig. C). All prepared ODN probes were purified on HPLC system. Subsequently, the quenching efficiency of these ODN probes was compared.