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"The Art of Perception in Organic Synthesis. From Mind's Eye to Practice"

The present-day level of achievements in organic synthesis methodology in general, and natural products in particular, is the highest ever compared to as recently as a generation ago. Natural products varying in their structures and biological activities continue to provide synthetic chemists the incentives to initiate and pursue challenging research programs. This has also led to innovative methods toward efficient bond-forming reactions and greater rewards in co-worker training. When presented with the structure of a target molecule to synthesize, our first contact is visual. What follows is a subliminal interplay between the eye and the mind's eye, triggering a complex, yet quasi-instantaneous series of visual relational and visual reflexive chemical thought processing events that are a part of the psychobiological basis of generating a synthesis plan. The heuristic aspects of visual and mental thinking paradigms, coupled with computer-generated information will be discussed in the context of viable synthetic strategies toward biologically relevant molecules.