The modern science faces serious challenges which soon or later will significantly influence a further progress of civilization, but in some examples even the sustain of the current level will be a challenge. The scientific research remains an important aspect of every society which is thinking about itself as a modern. Thanking to the research we can currently use uncountable number of appliances which will be unavailable without a time consuming fundamental studies, which broaden our knowledge about e.g. absorption and emission of light crucial for formation of organic light emitting diods, a key information that allowed a fabrication of contemporary screens widely used in tv receivers or smartphones. Such actions, on the first glance absolutely purposeless research on the emission recorded for chemical substance, led to the whole family of organic compounds emitting the light in different colours. The synthesis of those compounds followed a detailed description of a behaviour have been done during just the fundamental studies whose the main goal is far away from a direct applicability. Such research broadens our knowledge about the whole range of chemical processes but also can be used for extending the knowledge on biological processes. The both mentioned aspects are in the focus of presented research proposal which takes its fundament from the idea of effective and controllable linking of two structural motifs. The first one, let's call it a macrocycle is a perfect environment matching another centre bringing different features changing e.g. the efficiency of the visible light absorption (e.g. the sunlight), but effectively influence the emission the light in different colours (and the energy). The second element of planned hybrid is a well defined and homogenous structure widely know and called a 'graphene'. Graphene is a very intriguing two-dimensional (2D) motif which can be obtained e.g. from a pencil's graphite and built from a single layer of carbon atoms but any further modification is difficult, complicated and, what the most important rather hard to control. Nevertheless an incorporation of other structural element (elements with properties drastically different than the observed for carbon) to the monolithic carbon sheet drastically changes the observed properties introducing to the carbon material so-called dopings. The doping approach is widely used and applied in several fields and usually leads to significantly dissimilar properties observed for doped systems but the doping of graphene is difficult and hardly controllable. Nevertheless the linking of carbon-sheet motif with properly defined macrocycle and in the next step introduction of specific doping cation significantly change observed behaviour. Thus the main goal presented research proposal is formation of specific carbon motifs with precisely located defects constructed with a marocyclic structure able to bind a dopant. Properly planned and precisely defined end-structures will give a chance to determine the influence of all introduced dopants on the observed properties and caused by the disturbance of the monolithic character. Obtained results and information will allow to determine a correlation between a conjugated system – aromatic or antiaromatic embedded in two-dimensional graphene skeleton and the observed properties. It has to be emphasized that the presented research proposal concentrates on understanding of a fundamental behaviour of planned, based on previously observed clues and premises, structures linking two motifs strongly influencing each other. Such approach represents a nontrivial point of view while thinking about a set of possible applications and remains the very first step for using the presented structures in the future.