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Abstract	:	The synthesis of polyaniline in varied conditions or parameters produce different outcomes in term of morphologies and particle size. Well defined theory that clearly illustrate complete morphology spectrum remains scarce. Chemical oxidative polymerization of polyaniline (PANI) to be compounded in prevulcanised latex (PVL) film was produced throughout this work. PANI was prepared using aniline in hydrochloric acidic solution (HCl) with the presence of ammonium persulphate (APS) as the oxidizing agent and sodium dodecyl sulphate (SDS) as surfactant. This work proposes an outcome to reveal the significance of different molar ratio of aniline to oxidant at equimolar (0.2: 0.2 M) and non-equimolar (0.3: 0.1 M) with respect to different preparation process yielded different particle size of polymerized PANI. Analysis of microscopy images and particle size analysis (sonicated and unsonicated) reveal that all samples were highly flocculated with particle size of equimolar ranging between 10.0 to 152.45 μm and non-equimolar with 15.0 to 130.0 μm. After sonication applied, the population of smaller particle increased notably. Both ratio of aniline to oxidant formulation yields flocculated particle and quite consistently similar particle size. Microscopy images are present to support the findings.