

During chemical evolution, minerals might have played the role of catalyst in the formation of bio-oligomers by adsorbing monomers on their surfaces and thereby providing an environment to react with each other. RNA world hypothesis suggests RNA to be the ancestral genetic material which might have led to the emergence of cellular life. Much research has been done on the potential of montmorillonite (a phyllosilicate mineral) as a catalyst for oligomer formation because it is formed by weathering of volcanic ash, which was present in abundance on early Earth. RNA-like oligomers having chain length of 30-50 mers have been synthesized in the presence of montmorillonite. Generation of RNAs with chain length greater than 40 mers would have been sufficient enough for initiation of first life on Earth.