Title:	Petrographic and Organic Geochemical Characterizations of Early Eocene Lignites, Cambay Basin, Western India
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Keywords:	Lignite Petrography Cambay Basin Hydrocarbon potential Source vegetation
Issue Date:	2021
Publisher:	Springer Link
Citation:	Macromolecular Characterization of Hydrocarbons for Sustainable Future, 143–171.
Abstract:	Early Eocene lignite-bearing sequence from Cambay Basin was characterized by means of petrographic and organic geochemical analyses in order to assess its hydrocarbon-generating potential as well as reconstruct the palaeovegetation and palaeoenvironment. Huminite is the most abundant maceral in the samples. Subordinate amount of liptinite and inertinite is also present. The kerogen was classified, based on Rock-Eval and FTIR analyses, as mixed type II/type III with potential to generate both oil and gas upon maturation. The FTIR analysis also indicated abundance of aromatic and phenolic compounds with significant amount of aliphatic components. n–Alkanes present in the lignite samples ranged from C10 to C35, maximizing at C16, and displayed a bimodal distribution suggesting two different organic matter inputs, viz. microbes and higher plants. The triterpenoid class included ββ–hopane series ranging from C29 to C32, several hopenes, oleanenes, ursenes and some des–A–triterpenoids. The hopanes and hopenes were mainly derived from microbial components. Oleanenes, ursenes and des–A–triterpenoids were primarily derived from precursors β– and α–amyrin suggesting angiosperm contribution. Fernenes identified in the samples probably suggested pteridophytic input. The various petrographic parameters demonstrated the environment of deposition of these lignites as being wet, acidic and swampy.
Description:	Only IISER Mohali authors are available in the record.
URI:	https://doi.org/10.1007/978-981-33-6133-1_11 (https://doi.org/10.1007/978-981-33-6133-1_11) http://hdl.handle.net/123456789/4363 (http://hdl.handle.net/123456789/4363)
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