A meteorite found at Antarctica, which we have given the tentative name of YA 1154, has been preliminarily identified as an unknown type of achondrite that consists mainly of fassaite, plagioclase, and olivine with accessory spinel. This specimen shows a brownish dark-gray interior with tiny black fusion crust. The interior has a very fine-grained homogeneous appearance. Under the polarizing microscope the sections are characterized by the unique texture of a very fine-grained holocrystalline lithology that shows linear and irregular patterns of slightly elongated brown pyroxene(fassaite)-clear plagioclase and very elongated dendritic olivine aggregates (Fig. 1). This unique textual pattern looks like some dendritic textures that often appear in some terrestrial quenched igneous rocks and metamorphosed one.

Pyroxene (fassaite) is the most abundant mineral and has a remarkably high FeO/MnO ratio, in which several pyroxenes are within the range of average lunar pyroxenes, but most of them clearly different from pyroxenes of lunar and basaltic achondrites. Olivine is more Fe-rich with wide compositional range Fo4.1–35.9. Plagioclase is remarkably homogeneous and highly calcic, over An97. Bulk composition gives 38.3% SiO₂, 0.8% TiO₂, 13.8% Al₂O₃, 23.4% FeO, 7.1% MgO, 15.1% CaO, 0.2% P₂O₅, and 1.2% FeS.

The meteorite specimen YA 1154 with angrite composition might be belong to an unusual achondrite angrite; however, it is clearly distinguished from the Angra dos Reis (stone) [1] and all other angrites [2–5] because of its quite unique unusual texture.

Fig. 1. Photomicrograph of thin section of YA 1154. Field of view is 9 mm.