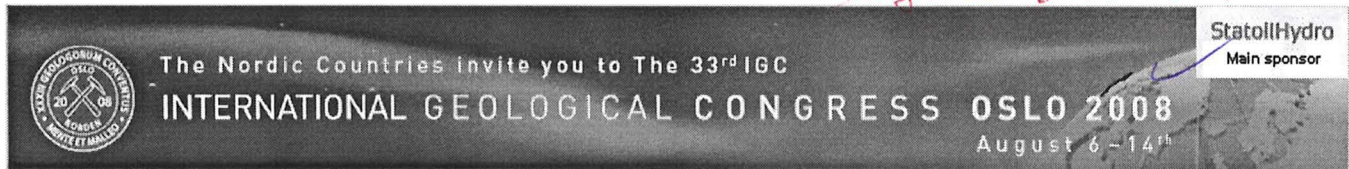


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The Paranaguá Domain is a collisional belt located in the southern portion of the Brazilian territory, limited at east by the Atlantic ocean's coastal line and by Luis Alves Microplate and Atuba gneiss-migmatitic complex (Curitiba Domain) at west. The western contact is delineated by transcurrent shears zones with dextral kinematics, named Palmital, Alexandra and Serra Negra. In another hand, the northern contact is made by a low angle shear zone with suggestions of nappism processes. This Domain is represented by an igneous complex that include a several granitic rocks, mainly represented by three different suites: (I) Morro Inglês calc-alkaline suite, (II) Canavieiras sin-collisional suite and (III) Rio do Poço late to post collisional suite. The country rocks of this granitic complex are represented by the Rio das Cobras metasedimentary sequence, composed by gneiss, schist, quartzite and amphibolite metamorphosed in different grades (medium to high).

The Morro Inglês Suite is the most expressive unit in Paranaguá Domain, being mainly represented by leucocratic rocks in gray tonalities, with medium to thick-grained porphyritic texture, frequently foliated, composed by megacrysts of K-feldspar (2 to 10cm), plagioclase (An12-20), quartz, hornblende ± biotite and accessory phase composed by sphene, apatite, epidote, allanite and zircon. Mafic enclaves with spherulitic to angular shapes are often observed, in most composed by diorites and amphibolites with fine-grained equigranular texture. The geochemical data allows recognize a calc-alkaline high potassium signature (shoshonitic series), in a metaluminous to weakly peraluminous association. U-Pb zircon (TIMS) analysis provide age about 614±9Ma, which represents the best interval of Morro Inglês Suite crystallization.

The Canavieiras Suite outcrop in the western section along shear zones, showing leucocratic rocks in gray to rosy colors, with medium to fine-grained inequigranular texture, that usually exhibit deformation features characterized by cataclastic and mylonitic textures. The mineralogy is composed by K-feldspar, plagioclase, quartz and biotite, with sphene, allanite and zircon as accessories. The Rio do Poço Suite outcrop as restricted bodies along the Paranaguá Domain, in most represented by leucocratic and hololeucocratic rocks with medium to fine-grained equigranular texture, frequently foliated as magmatic flow. The mineralogy is composed by K-feldspar, quartz, plagioclase (An8-15), biotite ± muscovite and accessories represented by apatite (with dimensions about 1-1,5mm), allanite, epidote and zircon. The geochemical data allows recognize a sub-alkaline signature with a peraluminous association. The REE patterns of Rio do Poço and Morro Inglês suites are quite similar, denoting an enrichment of all elements. These two suites also show similarity in trace elements, with negative anomalies in Ba, Nb and Zr. SHRIMP analysis supply ages about 615±7Ma, quite close to the Morro Inglês Site age.

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