Composition of mafic minerals from peralkaline potassic syenite – granite association from Bulgaria.

Several potassic monzonite-syenites-granite plutons outcrop in Kraishte and Stara planina (Balkan) regions:

Lutskan, Svidnya, 7th Prestola Monastery, Buhovo-Seslavtsi, syenites west of Shipka, Shipka pluton.

These magmatic bodies are of Variscan age (330-305 Ma), formed during postcollisional relaxation of the crust. They have high K, LILE and T-U contents. The final dykes possess strong peralkaline character and trace elements enrichment (both LILE and HFSE). The trace elements and isotope signature of the rocks suggest derivation from Enriched Mantle source (EM II).

Petrographic compositions of the plutons:

Lutskan: metaluminous granite with peralkaline syeniteporphries
Svidnya: metaluminous to slightly peralkaline melasyenites, syenites and quartzsyenite. Final dykes are strongly peralkaline syenite and graniteporphries.
7th Prestola Monastery: peralkaline quartzsyenite and granite.
Buhovo-Seslavtsi: metaluminous syenite-monzonite intrusion, followed by mildly peralkaline syenite porphyry; the final dykes are strongly peralkaline syenite and graniteporphries.

Syenites W of Shipka: slightly peralkaline melasyenites.
Shipka: metaluminous monzonites, with peralkaline syeniteporphries

Minerals compositions

**Micas:**

**Lutskan:**
- Biote X_{Na} 60-55; rare Phi X_{Na} 80

**Svidnya:**
- Biote X_{Na} 60-55; rare Phi X_{Na} 85

**Amphiboles**

**Lutskan:**
- Mg-hornblende
- Mg-Riebeckite, Richterite, Fe-Winchite

**Svidnya:**
- Richterite to Mg-Arvedsonite

**Shipka:**
- Mg-hornblende

**Clinopyroxenes**

**Lutskan:**
- Diopside – Na diopside – Aegirine-Augite – Aeg
- Late aegirine enriched in Ti with up to 6 - 6.5 wt % TiO_{2}
- Low to moderate Zr (< 1 wt % ZrO_{2})

**Svidnya:**
- Diopside – Na diopside – Aegirine-Augite – Aeg
- Late aegirine enriched in Ti with up to 6 wt % TiO_{2}
- Low to moderate Zr (< 1 wt % ZrO_{2})

**Buhovo-Seslavtsi:**
- Diopside – Augite
- Aegirine-Augite to Aegirine
- Up to 2.9 wt % ZrO_{2} and 3.4 wt % TiO_{2}

**Syenites W of Shipka:**
- Diopside – Augite
- Aegirine-Augite to Aegirine

**Shipka:**
- Biote X_{Na} 81-45;
in peralkaline dyke with F up to 4 wt %