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"Understanding the combination of magma dynamics and timescales in volcanic systems has a fundamental implication in determining the eruptive behavior of volcanoes undergoing unrest and, more in general, in quantifying the mass fluxes that regulate the evolution of the Earth's mantle, crust and atmosphere. Crustal Magmatic System Evolution: Anatomy, Architecture, and Physico-Chemical Processes focuses on how various petrologic approaches can be combined to decipher, with high precision, magma dynamics and timescales that characterize past and present volcanic systems. Volume highlights include: - Discussion of fundamental petrological and geochemical aspects controlling the evolution of magmas - Timescales of individual magmatic processes from melting to ascent and eruption - Deployment of recent methods and approaches for the investigation of magma dynamics - Advancement of geochemical and geophysical monitoring techniques allowing quantification of the timescales of shallow magma dynamics in active volcanoes - Evolution of magma within plumbing systems in time and space, based on the petrologic record from past eruptions - Petrologic investigations requiring direct sampling of the magma after the eruption - Extraction of magma dynamics and timescales from natural rocks using basic petrological and geochemical methods on bulk rock samples - Complex geochemical (isotope and trace element) characterization of single phases, and the experimental and thermodynamic modelling of the magmatic processes - Insights on crystallization kinetics related to the timescales of pre-eruptive

conditions Crustal Magmatic System Evolution: Anatomy, Architecture, and Physico-Chemical Processes is a valuable resource for professionals, researchers, and graduate students from a wide variety of fields including igneous petrology, experimental petrology, isotope geochemistry, geophysics, geochemistry, mineral chemistry and volcanology"--