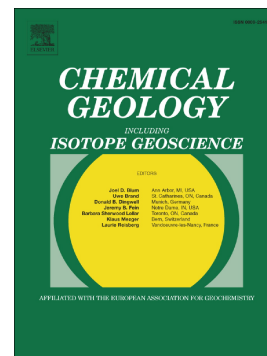


## Accepted Manuscript

Noble gases and rock geochemistry of alkaline intraplate volcanics from the Amik and Ceyhan-Osmaniye areas, se Turkey

F. Italiano, G. Yuce, M. Di Bella, B. Rojay, G. Sabatino, A. Tripodo, M. Martelli, A.L. Rizzo, M. Misseri



PII: S0009-2541(17)30186-9  
DOI: doi: [10.1016/j.chemgeo.2017.04.003](https://doi.org/10.1016/j.chemgeo.2017.04.003)  
Reference: CHEMGE 18306

To appear in: *Chemical Geology*

Received date: 28 July 2016  
Revised date: 14 March 2017  
Accepted date: 4 April 2017

Please cite this article as: F. Italiano, G. Yuce, M. Di Bella, B. Rojay, G. Sabatino, A. Tripodo, M. Martelli, A.L. Rizzo, M. Misseri, Noble gases and rock geochemistry of alkaline intraplate volcanics from the Amik and Ceyhan-Osmaniye areas, se Turkey. The address for the corresponding author was captured as affiliation for all authors. Please check if appropriate. Chemge(2017), doi: [10.1016/j.chemgeo.2017.04.003](https://doi.org/10.1016/j.chemgeo.2017.04.003)

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

NOBLE GASES AND ROCK GEOCHEMISTRY OF ALKALINE INTRAPLATE  
VOLCANICS FROM THE AMIK AND CEYHAN-OSMANIYE AREAS, SE TURKEY

Italiano F.<sup>1</sup>, Yuce G.<sup>2</sup>, Di Bella M.<sup>1,3</sup>, Rojay B.<sup>4</sup>, Sabatino G.<sup>3</sup>, Tripodo A.<sup>3</sup>, Martelli M.<sup>1</sup>, Rizzo A.  
L.<sup>1</sup>, Misseri M.<sup>1</sup>

<sup>1</sup> *Istituto Nazionale di Geofisica e Vulcanologia Sezione di Palermo, Via Ugo La Malfa, 153, 90146  
Palermo, Italy*

<sup>2</sup> *Hacettepe University, Department of Geological Engineering, Beytepe, 06800, Ankara, Turkey*

<sup>3</sup> *University of Messina, Department of Mathematics and Computer Sciences, Physic Sciences and  
Earth Sciences, Viale G. d'Alcontres, 31, 98166, S. Agata, Messina, Italy*

<sup>4</sup> *Middle East Technical University, Department of Geological Engineering, 06531 Ankara, Turkey*

## Abstract

The SE part of Turkey is characterized by a transtensional regime within the complex collision zone between the Anatolian, Arabian and African plates, which is bounded by two main faults, Dead Sea Fault and its splays on east and the Karasu Fault on west. In this tectonic and geodynamic context developed the Amik and further North, Erzin and Toprakkale districts, which are located onshore the Iskenderun Gulf, with the occurrence of a widespread and young alkaline volcanism dated from 1.57 to 0.05 Ma in Amik, and 2.25 to 0.61 Ma in Toprakkale.

Here we present the results of a petrochemical and noble gases (He-Ar) study performed in basalts and basanites from the Basins in order to constrain the features of the mantle source. The major and trace elements composition indicate that the involved mafic melts could be the result of 0.8-2% partial melting of a predominantly spinel and garnet + spinel mantle, which has typical features of intra-plate OIB magmatism. The  $^4\text{He}/^{40}\text{Ar}^*$  ratios display two distinct ranges, roughly  $<1$  and  $>1$ , for basalts and basanites respectively. The  $^3\text{He}/^4\text{He}$  ratio of fluid inclusions in olivine crystals ranges

Download English Version:

<https://daneshyari.com/en/article/5782654>

Download Persian Version:

<https://daneshyari.com/article/5782654>

[Daneshyari.com](https://daneshyari.com)