I-Xe AGES OF DIFFERENT MINERAL FRACTIONS FROM BALI AND KABA (CV3). O.V. Pravdivtseva[1], C. M. Hohenberg[1], A. P. Meshik, A. N. Krot[2]. [1]Department of Physics and McDonnell Center for Space Sciences, Washington University, St. Louis, MO 63130 (olga@ocelot.wustl.edu). [2]Hawai'i Institute of Geophysics and Planetology, School of Ocean and Earth Science and Technology, University of Hawai'i at Manoa, Honolulu HI 96822.

Introduction: I-Xe ages, measured for magnetite fractions from Bali and Kaba, are consistent with secondary origin during aqueous alteration on parent body [1, 2, 3]. Release profiles for radiogenic ^{128}Xe and ^{129}Xe support magnetite as the single iodine carrier in magnetic separates from these meteorites. Here we report new data obtained on other mineral separates from Bali and Kaba.

Experimental: Two mineral fractions consisting of single crystals, each hand picked from coarsely crushed samples of Bali and Kaba, were identified by EDX spectra using a JSM-840A scanning microscope. The enstatite fractions were clearly identified by EDX spectra, but the Ca-rich fractions, each 20-30 visibly similar grains may have been a mixture of plagioclase-rich mesostasis and Al-rich phyllosilicates. Sealed under vacuum in fused quartz ampoules, the samples were irradiated at the Missouri University Research Reactor, receiving $\approx 2 \cdot 10^{19}$ n/cm^2. The actual fluence, monitored by Co-doped Al flux wires, varied by <1 %. The Xe was extracted, separated and measured according our standard procedure [4, 5].

Results: The enstatite separates from Bali and Kaba define precise high temperature isochrons from ~1400°C to ~1800°C, with similar I-Xe ages: –2.1 ± 0.7 Ma for Bali and –2.0 ± 0.8 Ma for Kaba (relative to, and older than, the Shallowater internal reference standard).

The mixture of plagioclase-rich mesostasis and Al-rich phyllosilicates in Bali and Kaba yield lower temperature isochrons, corresponding to I-Xe ages of 9.0 ± 0.8 Ma and 8.9 ± 0.7 Ma, respectively for Bali and Kaba (after Shallowater), consistent with formation by late stage aqueous alteration. These ages, somewhat younger than the corresponding magnetite ages, suggest that the aqueous alteration in CV chondrites lasted for at least 10 Ma. Initial alteration, the oxidation of metal to magnetite, not necessarily requiring an aqueous fluid, occurred a few million years before the formation of phyllosilicates, fayalite and hedenbergite. The ^{53}Mn-^{53}Cr data for fayalite formation in the CV3 chondrite Mokoia, 7-16 Ma after Allende CAI inclusions [6], are in good agreement with the I-Xe ages of phyllosilicates in Kaba and Bali reported here. Other phases have been separated from these meteorites and measurements are currently in progress.

I-Xe ages of mineral separates from Kaba and Bali

Sample	I-Xe ages, Ma (Relative to Shallowater 4.566±0.002 Ga)		
	enstatite	phyllosilicates	magnetite
Bali	– 2.1±0.7	9.0±0.8	7.8±0.2
Kaba	– 2.0±0.8	8.9±0.7	4.2±0.3

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