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## Analysis of cathinone and cathine in crimson and green *Catha edulis* by GC-MS and determination of the spermicidal activity

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*Catha edulis* (khat) fresh leaves and tops are chewed or dried and consumed as tea. It is habitually chewed by many peoples in Yemen, East Africa and Indonesia. The abuse of *Catha edulis* (khat), widely, has been increasing since the mid-2000s. These substances are derivatives of the naturally occurring compound cathinone, which is the primary psychoactive component of khat. There are two types of khat leaves called crimson and green khat. The difference found in the branches which crimson khat had twigs maroon red and the green khat had brownish green. Viewing of cathinone and cathine levels used GC-MS because the components can be analyzed and characterized by exploiting the properties of their volatility. The efficiency for the extraction and isolation of cathinone and cathine were investigated. GC-MS chromatogram has shown a cathinone content on green khat, had a peak height 213,800, while the crimson khat had peak height 111,693 which means green khat contains more cathinone that had a retention time of about 22.3 minutes. The Cathine level on green and crimson khat was very low that had a retention time of about 22.7 minutes. The minimum effective concentration of the green and crimson khat extract to totally immobilise sperm within 20 seconds was 200 mg/ml. This study shows that the extract of *Catha edulis* possesses spermicidal activity and cathinone level for a green khat more high than a crimson khat.

### Biography

Azrifitria completed her PhD at the Indonesia University School of Medicine. She is the Head of Pharmacy Department at Syarif Hidayatullah Islamic State University Jakarta, Indonesia. She has published several papers in reputed journals and pursued some course in harmacy field at Tokushima Bunry Japan.

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