



**GROWTH SERIES OF THE MONOID IN THE GROUP**

$$\langle aba = bab, bcb = cbc, cdc = dcd, dad = ada \rangle$$

Tadayoshi Takebayashi

Received April 18, 2012

**Abstract**

We give the growth series of the monoid in the group  $\langle a, b, c, d \mid aba = bab, bcb = cbc, cdc = dcd, dad = ada \rangle$ .

**Keywords and phrases:** growth series, monoid.

**Pioneer Journal  
of Mathematics  
and Mathematical  
Sciences**



**Pioneer Scientific  
Publisher**