

**UPAYA AMERIKA SERIKAT MENGURANGI KETERGANTUNGAN  
PASOKAN *RARE EARTH ELEMENTS* (REE) DARI TIONGKOK**

*Disusun dan diajukan untuk memenuhi salah satu syarat memperoleh gelar*

*Sarjana Ilmu Sosial (S.Sos) Strata – 1*



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**FAKULTAS ILMU SOSIAL DAN ILMU POLITIK**

**UNIVERSITAS MUHAMMADIYAH MALANG**

**2025**

**UPAYA AMERIKA SERIKAT MENGURANGI  
KETERGANTUNGAN PASOKAN RARE EARTH ELEMENT (REE)  
DARI TIONGKOK**

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














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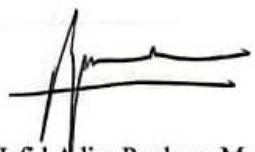
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Demikian pernyataan ini saya buat dengan sebenar-benarnya untuk dipergunakan sebagaimana mestinya.

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Yang Menyatakan,

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## ABSTRAK

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Penelitian ini membahas ketergantungan Amerika Serikat terhadap pasokan *Rare Earth Elements* (REE) yang didominasi oleh Tiongkok serta upaya strategis untuk mengurangi kerentanan tersebut. REE merupakan komoditas vital dalam industri teknologi tinggi, energi terbarukan, dan pertahanan. Dominasi Tiongkok yang menguasai lebih dari dua pertiga produksi global menimbulkan kekhawatiran serius bagi Amerika Serikat, terutama terkait risiko gangguan pasokan akibat dinamika geopolitik, fluktuasi harga, serta ancaman terhadap stabilitas ekonomi dan keamanan nasional. Penelitian ini menggunakan metode kualitatif deskriptif berbasis studi kepustakaan, dengan analisis kerangka 4A (Availability, Affordability, Acceptability, Accountability). Hasil penelitian menunjukkan bahwa pada aspek Availability, Amerika Serikat berupaya mendiversifikasi sumber pasokan melalui optimalisasi tambang domestik seperti Mountain Pass dan memperkuat kerja sama dengan negara sekutu, termasuk Australia dan Kanada. Aspek Affordability, pemerintah memberikan insentif dan dukungan finansial guna menjaga stabilitas harga serta mengurangi kerentanan terhadap kebijakan ekspor Tiongkok. Aspek Acceptability, AS mengembangkan teknologi pemrosesan ramah lingkungan untuk mengatasi dampak ekologis dan meningkatkan dukungan publik terhadap eksploitasi REE. Sementara aspek Accountability, strategi diwujudkan melalui koordinasi lintas lembaga, regulasi yang transparan, dan kolaborasi internasional agar rantai pasokan lebih aman dan terkelola. Penelitian ini menunjukkan bahwa kekhawatiran AS terhadap dominasi Tiongkok mendorong upaya menyeluruh yang meliputi pasokan, ekonomi, sosial, lingkungan, dan tata kelola. Upaya ini bertujuan untuk memperkuat keamanan energi, mengurangi ketergantungan, dan mengurangi risiko geopolitik.

**Kata Kunci:** 4A, Amerika Serikat, Geopolitik, Keamanan Energi, *Rare Earth Elements*, Tiongkok,

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## ABSTRACT

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This study examines the United States' dependence on Rare Earth Elements (REE) dominated by China and the strategic efforts undertaken to reduce this vulnerability. REEs are vital commodities in high-technology industries, renewable energy, and defense. China's control of more than two-thirds of global production raises serious concerns for the United States, particularly regarding the risks of supply disruptions due to geopolitical tensions, price fluctuations, and threats to both economic stability and national security. This research employs a descriptive qualitative method using library research, analyzed through the 4A framework (Availability, Affordability, Acceptability, Accountability). The findings show that in terms of Availability, the United States seeks to diversify its supply by optimizing domestic resources such as the Mountain Pass mine and strengthening cooperation with allied countries, including Australia and Canada. Affordability, the government provides incentives and financial support to stabilize prices and reduce vulnerability to China's export policies. Acceptability, the U.S. develops environmentally friendly processing technologies to address ecological impacts and gain public support for REE exploitation. Meanwhile, Accountability, strategies are implemented through inter-agency coordination, transparent regulations, and international collaboration to secure and properly manage the supply chain. Therefore, this study emphasizes that U.S. concerns over China's dominance drive comprehensive strategies that go beyond securing supply, encompassing economic, social, environmental, and governance aspects. These efforts are crucial to strengthening energy security, reducing structural dependence, and minimizing future geopolitical risks.

**Keyword:** *Rare Earth Elements*, United States, China, Energy Security, Geopolitics, 4A

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Malang, 29 September 2025



Aliyah Laily Wahyudiyanti

## MOTTO

*“A lot of times when we aren't happy, it's because we compare ourselves to other.*

*Works on being a better version of ourselves and we will be closer to happiness”*

~ Huang Renjun ~



## DAFTAR ISI

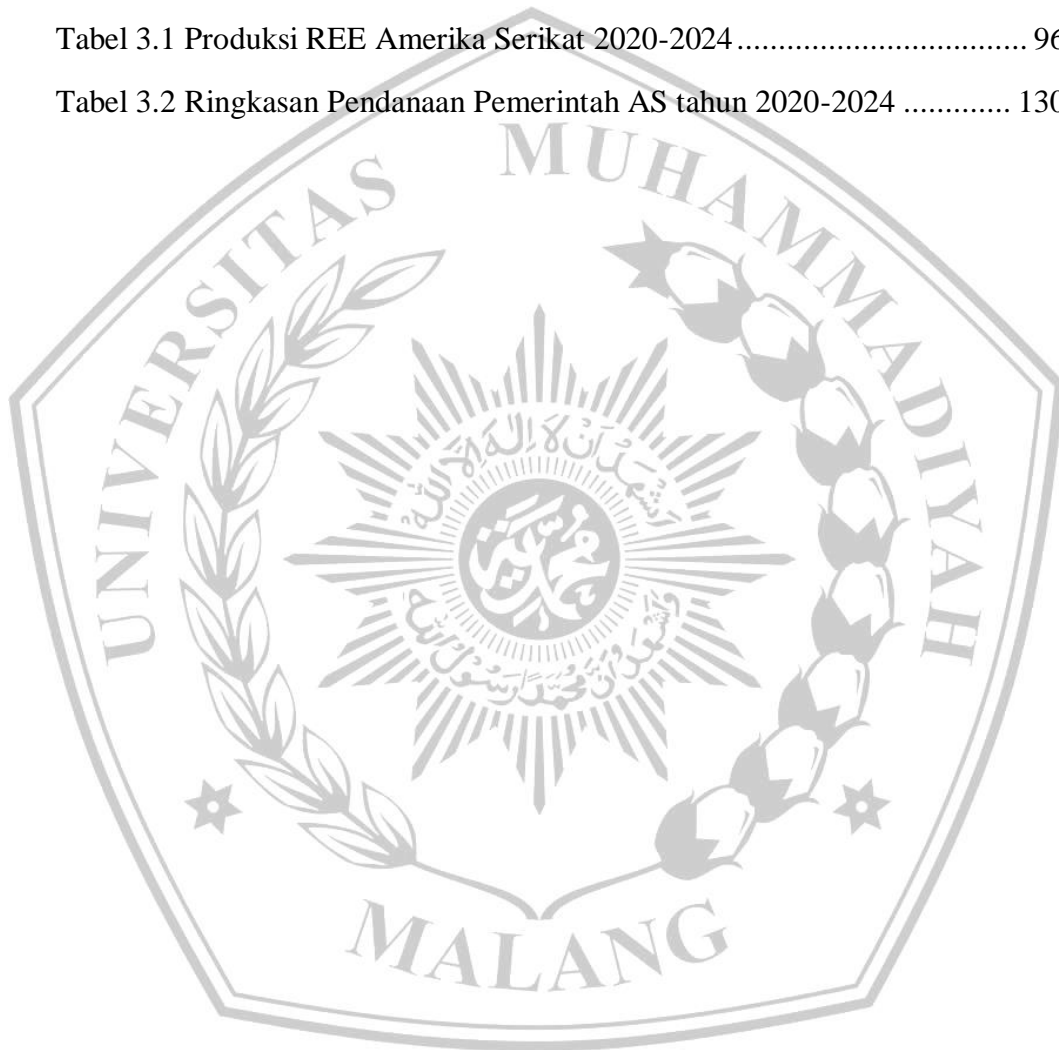
<b>LEMBAR PERSETUJUAN .....</b>	<b>i</b>
<b>LEMBAR PENGESAHAN.....</b>	<b>ii</b>
<b>BERITA ACARA BIMBINGAN SKRIPSI .....</b>	<b>iii</b>
<b>PERNYATAAN ORISINALITAS .....</b>	<b>iv</b>
<b>ABSTRAK .....</b>	<b>v</b>
<b>ABSTRACT .....</b>	<b>vi</b>
<b>KATA PENGANTAR.....</b>	<b>vii</b>
<b>MOTTO .....</b>	<b>xi</b>
<b>DAFTAR ISI .....</b>	<b>xii</b>
<b>DAFTAR TABEL.....</b>	<b>xv</b>
<b>DAFTAR GRAFIK.....</b>	<b>xvi</b>
<b>DAFTAR GAMBAR.....</b>	<b>xvii</b>
<b>DAFTAR AKRONIM.....</b>	<b>xviii</b>
<b>HASIL CEK PLAGIASI .....</b>	<b>xxii</b>
<b>BAB I PENDAHULUAN.....</b>	<b>1</b>
1.1 Latar Belakang .....	1
1.2 Rumusan Masalah .....	9
1.3 Tujuan dan Manfaat Penelitian .....	9
1.3.1 Tujuan Penelitian.....	9
1.3.2 Manfaat Penelitian.....	9
1.3.2.1 Manfaat Akademis .....	9
1.3.2.2 Manfaat Praktis.....	10
1.4 Penelitian Terdahulu .....	10
1.5 Kerangka Konseptual .....	31
1.5.1 Konsep Keamanan Energi.....	31
1.6 Metode Penelitian .....	36

1.6.1 Jenis Penelitian.....	36
1.6.2 Metode Analisis.....	36
1.6.3 Ruang Lingkup Penelitian.....	37
1.6.3.1 Batasan Materi.....	37
1.6.3.2 Batasan Waktu.....	37
1.6.4 Teknik Pengumpulan Data.....	38
1.7 Argumen Dasar .....	39
1.8 Sistematika penelitian .....	39
<b>BAB II RARE EARTH ELEMENTS: DOMINASI TIONGKOK DAN KEGELISAHAN AMERIKA SERIKAT .....</b>	<b>43</b>
2.1 Karakteristik <i>Rare Earth Elements</i> (REE) .....	43
2.1.1 Definisi dan klasifikasi REE .....	43
2.2 Peran REE Dalam Teknologi dan Industri Global.....	46
2.2.1 Pengaplikasian REE dalam Teknologi Industri .....	47
2.2.2 Hubungan REE dengan teknologi hijau dan energi bersih .....	48
2.2.3 Kebutuhan REE dalam sektor pertahanan dan militer .....	49
2.3 Dominasi Tiongkok dalam Rantai Pasokan <i>Rare Earth Elements</i> .....	55
2.3.1 Sejarah dan perkembangan industri REE di Tiongkok .....	56
2.3.2 Kebijakan strategis Tiongkok dalam menguasai REE .....	67
2.3.3 Implikasi ekonomi dan geopolitik bagi negara-negara lain.....	70
2.4 Dampak Dominasi REE Tiongkok Terhadap Keamanan Energi AS .....	79
2.4.1 Ketergantungan Amerika Serikat terhadap REE Tiongkok.....	79
2.4.2 Dampak pada Sektor Energi Bersih dan Teknologi Hijau.....	86
2.5 Faktor Kegagalan Amerika Serikat dalam Menjaga Industri REE .....	88
<b>BAB III UPAYA AMERIKA SERIKAT MENGURANGI KETERGANTUNGAN PASOKAN RARE EARTH ELEMENTS (REE) DARI TIONGKOK .....</b>	<b>94</b>

3.1 Upaya peningkatan ketersediaan pasokan REE (Availability) .....	94
3.1.1 Analisis Potensi Cadangan REE di Amerika Serikat .....	95
3.1.2 Peran Perusahaan Strategis dalam Pengembangan Industri REE Domestik.....	100
3.1.3 Kolaborasi dengan negara-negara pemasok alternatif.....	102
3.2 Pengembangan Teknologi Berkelanjutan dan Substitusi REE (Acceptability) .....	108
3.2.1 Inovasi teknologi untuk pemrosesan REE yang lebih efisien.....	109
3.2.2 Tantangan serta potensi daur ulang REE.....	118
3.3 Kebijakan dan insentif pemerintah Dalam Mendukung Industri REE (Affordability & Accountability).....	124
3.3.1 Implementasi kebijakan Executive Order 13817 .....	125
3.3.2 Peran pemerintah dalam mendorong investasi sektor REE Dukungan terhadap sektor swasta.....	128
3.3.3 Kerja sama dengan sektor swasta dan akademisi penelitian dan pengembangan .....	133
<b>BAB IV PENUTUP.....</b>	<b>138</b>
4.1 Kesimpulan.....	138
4.2 Saran.....	139
<b>DAFTAR PUSTAKA.....</b>	<b>141</b>

## DAFTAR TABEL

Tabel 1.1 Posisi Penelitian .....	23
Tabel 1.2 Sistematika Penelitian.....	38
Tabel 2.1 Produksi Rare Earth Elements tahun 2020-2024 .....	61
Tabel 2.2 5 Perusahaan Penghasil REE Terbesar di Dunia.....	72
Tabel 3.1 Produksi REE Amerika Serikat 2020-2024 .....	96
Tabel 3.2 Ringkasan Pendanaan Pemerintah AS tahun 2020-2024 .....	130



## DAFTAR GRAFIK

Grafik 2.1 Produksi Rare Earth Elements tahun 2020-2024 ..... 60

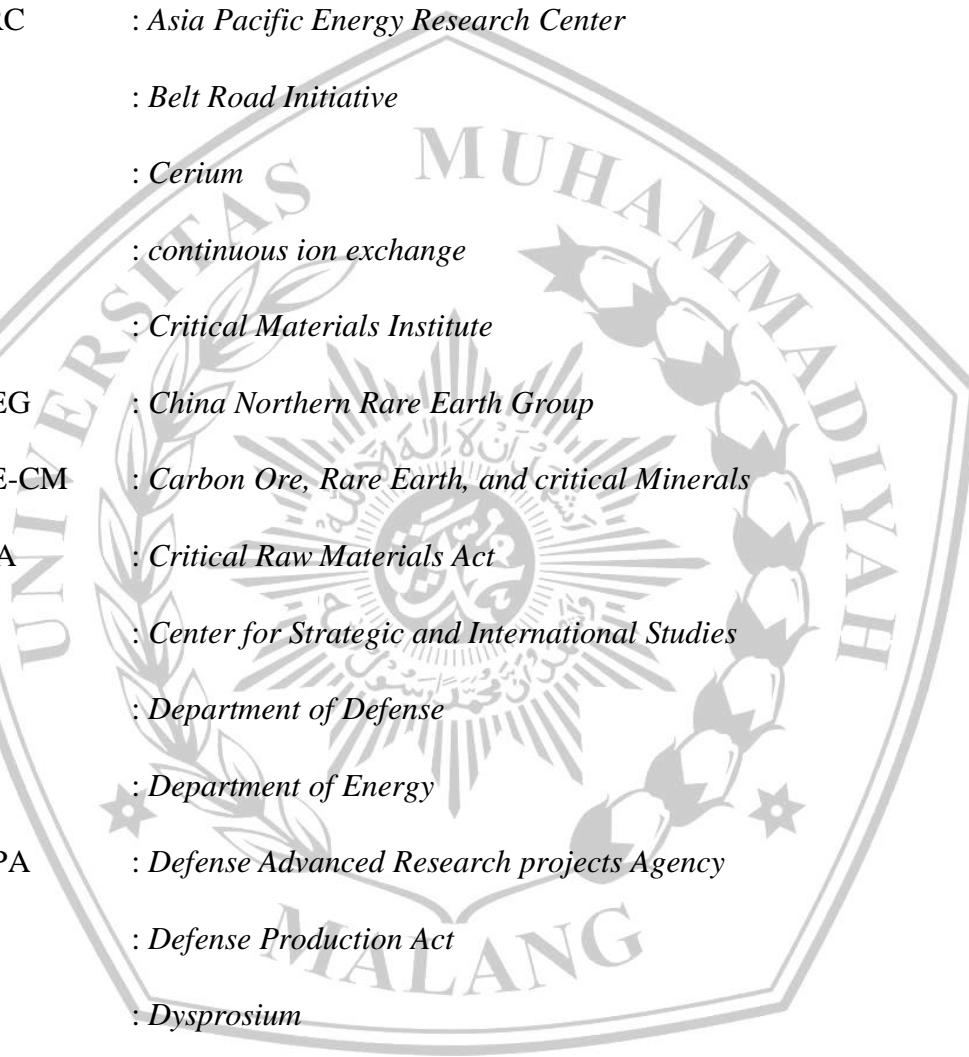


## DAFTAR GAMBAR

Gambar 1. Distribusi negara yang menjadi target impor REE tahun 2020 - 2023  
..... 79



## DAFTAR AKRONIM



4A	: <i>Availability, Affordability, Acceptability, Accountability</i>
AI	: <i>Artificial intelligence</i>
AMD	: <i>Acid Mine Drainage</i>
APERC	: <i>Asia Pacific Energy Research Center</i>
BRI	: <i>Belt Road Initiative</i>
Ce	: <i>Cerium</i>
CIX	: <i>continuous ion exchange</i>
CMI	: <i>Critical Materials Institute</i>
CNREG	: <i>China Northern Rare Earth Group</i>
CORE-CM	: <i>Carbon Ore, Rare Earth, and critical Minerals</i>
CRMA	: <i>Critical Raw Materials Act</i>
CSIS	: <i>Center for Strategic and International Studies</i>
DOD	: <i>Department of Defense</i>
DOE	: <i>Department of Energy</i>
DARPA	: <i>Defense Advanced Research projects Agency</i>
DPA	: <i>Defense Production Act</i>
Dy	: <i>Dysprosium</i>
EFTA	: <i>European Free Trade Association</i>
EMBER	: <i>The Environmental Microbes as a BioEngineering Resource</i>
EO	: <i>Executive Order</i>
Er	: <i>Erbium</i>

ESG	: <i>Environmental, Social, and Governance</i>
Eu	: <i>Europium</i>
EURARE	: <i>EUROpean RAre Earth elements exploitation technologies</i>
EXIM Bank	: <i>Bank Ekspor-Import</i>
FY 2021-2023	: <i>Fiscal Year 2021-2023</i>
Gd	: <i>gadolinium</i>
GRINM	: <i>General Research Institute for Nonferrous Metals</i>
Ho	: <i>Holmium</i>
HREE	: <i>Heavy Rare Earth Elements</i>
IPP	: <i>Isotactic Polypropylene</i>
JARE	: <i>Japan Australia Rare Earths</i>
La	: <i>lanthanum</i>
LTJ	: <i>Logam Tanah Jarang</i>
LOI	: <i>Letter of Interest</i>
LPO	: <i>Loan Programs Office</i>
LREE	: <i>Light Rare Earth Elements</i>
Lu	: <i>lutetium</i>
MCS	: <i>Mineral commodity Summaries</i>
MFA	: <i>Material Flow Analysis</i>
MoU	: <i>Memorandum of understanding</i>
MP	: <i>Mountain Pass</i>
MSP	: <i>Mineral Security Partnership</i>

Nd	: <i>neodymium</i>
NdFeB	: <i>Neodymium-iron-boron</i>
NETL	: <i>National Energy Technology Laboratory</i>
NRC	: <i>Nuclear Regulatory Commission</i>
ORISE	: <i>Oak Ridge Institute for Science and Education</i>
Pm	: <i>promethium</i>
PM	: <i>Permanent Magnet</i>
Pr	: <i>praseodymium</i>
REE	: <i>Rare Earth Elements</i>
REO	: <i>Rare Earth Oxide</i>
R&D	: <i>Research and Development</i>
Sc	: <i>scandium</i>
SEM	: <i>Scanning Electron Microscopy</i>
Sm	: <i>samarium</i>
STP	: <i>Science, Technology and Policy</i>
Tb	: <i>terbium</i>
Tm	: <i>thulium</i>
TWT	: <i>Traveling Wave Tubes</i>
UE	: <i>Uni Eropa</i>
UKM	: <i>Usaha Kecil Menengah</i>
USGS	: <i>U.S. Geological Survey</i>
USITC	: <i>United States International Trade Commission</i>

USMCA : United States, Mexico, Canada

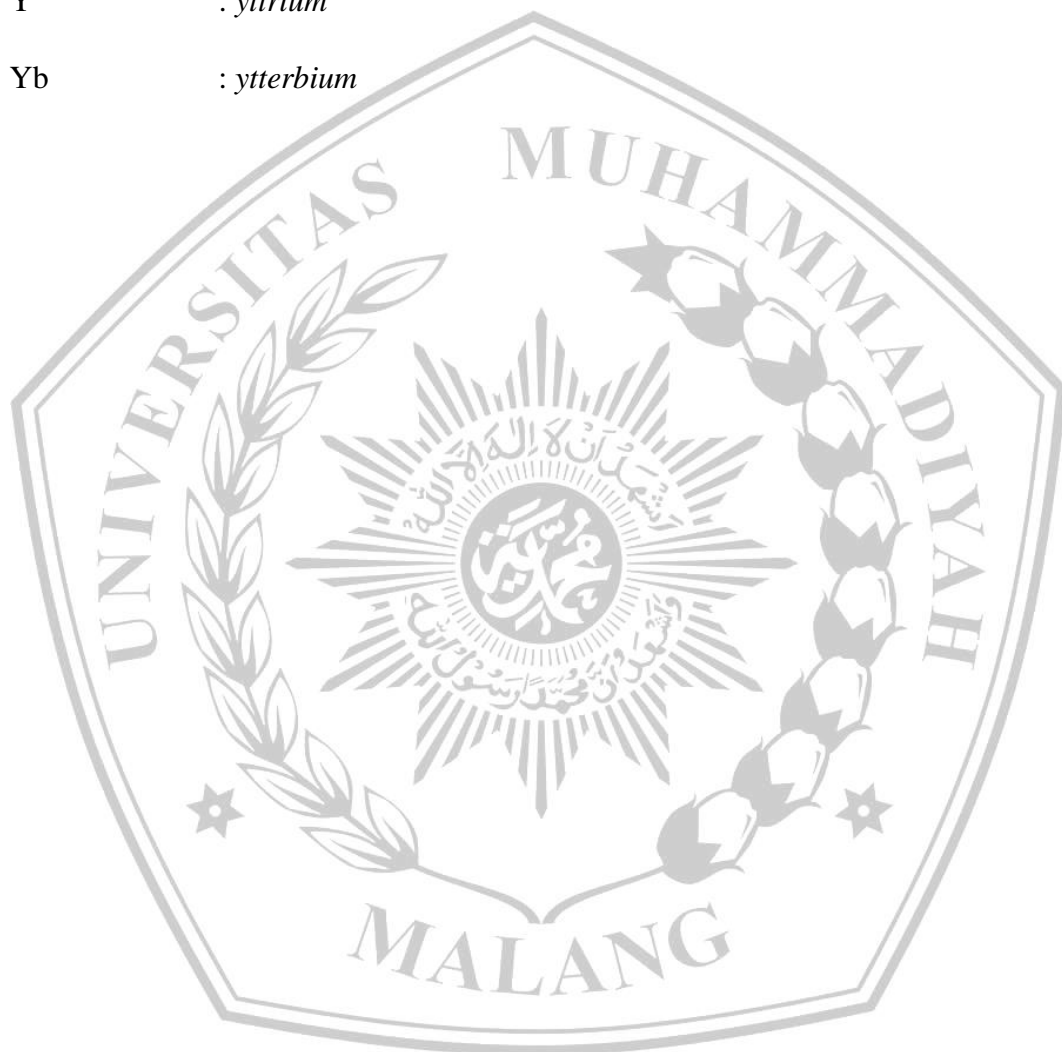
US : United States

WTO : *World Trade Organization*

WVU : *West Virginia University*

Y : *yttrium*

Yb : *ytterbium*



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