

Review Form 1.6

Journal Name:	Chemical Science International Journal
Manuscript Number:	Ms_CSIJ_83663
Title of the Manuscript:	Effect of alkaline additives over V-based catalysts supported on γ -Al ₂ O ₃ for propane oxidative dehydrogenation
Type of the Article	Original Research Article

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound. To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

(<https://www.journalcsij.com/index.php/CSIJ/editorial-policy>)

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PART 1: Review Comments

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Compulsory REVISION comments		
Minor REVISION comments	<p>Page 1</p> <p>a) Verb ending</p> <p>Introduction</p> <p>Line 4</p> <p>dehydrogenation [2-4]. Recently, the growing global olefins demands has stimulate the</p> <p>dehydrogenation [2-4]. Recently, the growing global olefins demands has stimulated the</p> <p>Page 2</p> <p>b) delete connector</p> <p>Introduction</p> <p>Line 25</p> <p>with the potassium additive and concluded that K strongly inhibited the consecutive propene</p> <p>with the potassium additive concluded that K strongly inhibited the consecutive propene</p> <p>Page 4</p> <p>c) Change the name of the described variable. It does not correspond to the symbols used in formula 5</p> $SRR = \frac{X_{isop} (\%) \times F_{isop}}{W \times S_g} \quad (5)$ <p>gaseous carbon-containing product “j”, F_{Ad} is the reactor outflow of isopropanol, W is the</p> <p>gaseous carbon-containing product “j”, F_{isop} is the reactor outflow of isopropanol, W is the</p> <p>Page 10</p> <p>d) Place identification on the figures to facilitate reading</p>	<p>Requested corrections are highlighted in the manuscript.</p>

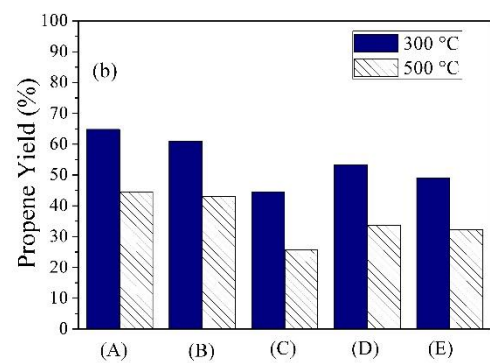
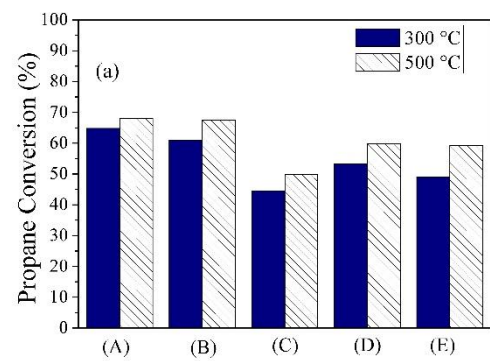
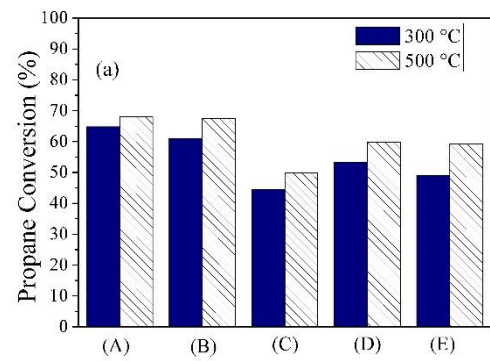
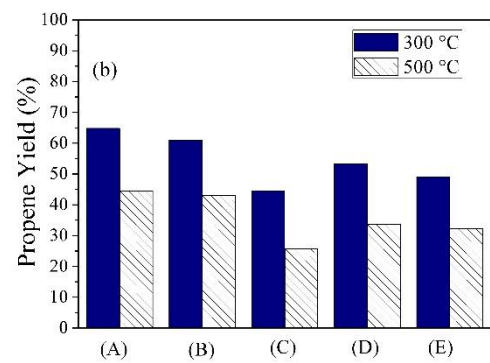


Fig. 6. Propane conversion (a) and propene yield (b) of the following catalysts during propane oxidative dehydrogenation: (A) 4V-Al (B); (B) 4V-0.5Na-Al (B); (C) 4V-1.0Na-Al (B); (D) 4V-0.5K-Al (B); (E) 4V-1.0K-Al (B)



(a)



(b)
Fig. 6. Propane conversion (a) and propene yield (b) of the following catalysts during propane oxidative dehydrogenation: (A) 4V-Al (B); (B) 4V-0.5Na-Al (B); (C) 4V-1.0Na-Al (B); (D) 4V-0.5K-Al (B); (E) 4V-1.0K-Al (B)

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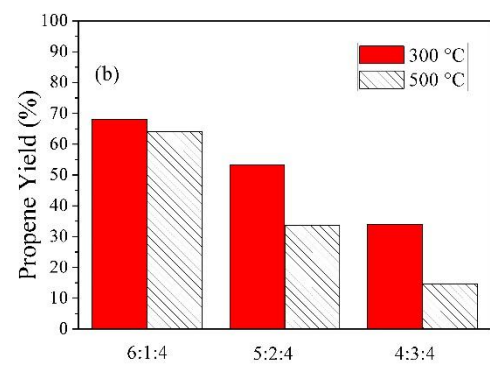
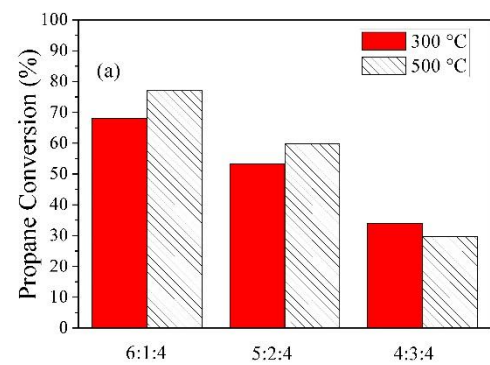


Fig. 8. Propane conversion (a) and propene yield (b) of the 4V-0.5K-Al (B) catalyst at different O₂:C₃H₈:He molar ratios of 6:1:4, 5:2:4 and 4:3:3

	<div><p>Figure 8 consists of two bar charts, (a) and (b), showing the performance of the 4V-0.5K-Al (B) catalyst at different O₂:C₃H₈:He molar ratios (6:1:4, 5:2:4, and 4:3:4) at two temperatures: 300 °C (red bars) and 500 °C (hatched bars).</p><p>Chart (a) shows Propane Conversion (%). The y-axis ranges from 0 to 100. The x-axis shows the molar ratios. At 300 °C, conversion is approximately 68% for 6:1:4, 53% for 5:2:4, and 34% for 4:3:4. At 500 °C, conversion is approximately 78% for 6:1:4, 60% for 5:2:4, and 30% for 4:3:4.</p><table border="1"><thead><tr><th>Molar Ratio</th><th>300 °C (%)</th><th>500 °C (%)</th></tr></thead><tbody><tr><td>6:1:4</td><td>68</td><td>78</td></tr><tr><td>5:2:4</td><td>53</td><td>60</td></tr><tr><td>4:3:4</td><td>34</td><td>30</td></tr></tbody></table></div> <p>(a)</p> <div><p>Chart (b) shows Propene Yield (%). The y-axis ranges from 0 to 100. The x-axis shows the molar ratios. At 300 °C, yield is approximately 68% for 6:1:4, 53% for 5:2:4, and 34% for 4:3:4. At 500 °C, yield is approximately 65% for 6:1:4, 33% for 5:2:4, and 15% for 4:3:4.</p><table border="1"><thead><tr><th>Molar Ratio</th><th>300 °C (%)</th><th>500 °C (%)</th></tr></thead><tbody><tr><td>6:1:4</td><td>68</td><td>65</td></tr><tr><td>5:2:4</td><td>53</td><td>33</td></tr><tr><td>4:3:4</td><td>34</td><td>15</td></tr></tbody></table></div> <p>(b)</p> <p>Fig. 8. Propane conversion (a) and propene yield (b) of the 4V-0.5K-Al (B) catalyst at different O₂:C₃H₈:He molar ratios of 6:1:4, 5:2:4 and 4:3:3</p>	Molar Ratio	300 °C (%)	500 °C (%)	6:1:4	68	78	5:2:4	53	60	4:3:4	34	30	Molar Ratio	300 °C (%)	500 °C (%)	6:1:4	68	65	5:2:4	53	33	4:3:4	34	15	
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Optional/General comments																										

PART 2:

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Are there ethical issues in this manuscript?	(If yes, Kindly please write down the ethical issues here in details)	