Referee 1 (R1)

This concept paper describes the recent discovery of Lewis-base-free monocoordinated Al(I) species. Since this paper has three fatal misunderstandings which cannot be ignored. If all these points should be improved, the reviewer can agree with publishing this paper.

1. Name of R-Al species, aluminylene, is wrong. It should follow IUPAC nomenclature. Considering the "Red Book", R-Al species should be named as λ1-alumane (lambda1-alumane) because the mononuclear parent hydride of aluminum compound should be named as "alumane" (see p85 in the PDF on the following URL). Also, in page 86, "Homonuclear acyclic parent hydrides with elements exhibiting non-standard bonding numbers" indicate to use λ1 for mono-substituted species. Thus, λ1-alumane would be the most appropriate name.
https://iupac.org/wp-content/uploads/2016/07/Red_Book_2005.pdf
As other potential candidates, "alumanylidene" and "alumanylene", can be considered as a derivative of the mononuclear parent hydride "alumane". In these cases, the suffix "-ylidene" would be better because the suffix "-ylene" is frequently used for bridging parts such as methylene, ethylene, and phenylene etc.
In this paper, the authors used "aluminylene", however, the word "aluminy" should be used as 'y' term in substitutive nomenclature to describe anionic aluminum atom in "chains and rings nomenclature". So it is not appropriate to use this word.

2. page 3, The authors cited unpublished work as ref 45. It is forbidden.

3. page 3, right, line 43-44, the authors stated "Compound 20 represents the first example of a stable genuine mono-base-stabilized aluminylene." Is this right? Roesky's nacnac-Al is a very famous "mono-base-stabilized" neutral Al(I) species.

Referee 2 (R2)

This is a fairly well-written brief report on aluminylenes. I have a few relatively minor suggestions.

a) In the introduction, the name of Schnoeckel (cf. the Al(I) species AlCp*)4, which dissociates to Cp* monomers in the vapor phase) from almost three decades ago, should be mentioned.

b) they use the term "formal oxidation state"--but oxidation state is already a formalism. I suggest they delete 'formal'.

c) on line 39 'fluorishment' is not a word in common usage.

d) 'triactive ambiphilicity' ---due to two empty and a lone pair in the Al valence shell ? is uneccessary amd amphiphilic is sufficient

e) in their remarks on ArDippAlI2 on line 44 in the left-hand column on the 1st page, they should mention that the reaction generated a dialumene which reacted with the toluene solvent.

f) the authors may consider using the word complex' instead of 'adduct'. It seems to me that the persistent use of 'adduct' somehow generates a distinction without a difference.

g) the authors should mention that the aluminylenes are lighter congeners of the corresponding Ga, In and Tl species which were known for some time before the aluminylenes and their existence should be mentioned and cited.