Assessment Rubric for Writing an MRA

Heading	Steps	Proficient	Emerging	Aware
Structure of an MRA	1. Read 2-3 MRAs 2. Note key features of the MRA using the MRA template as a guide to evaluate the published MRAs.	Key features of an MRA are identified when using the MRA template as a guide.	Most key features of an MRA are identified when using the MRA template as a guide.	A few key features of an MRA are identified when using the MRA template as a guide.
Data Selection	3. Select phage(s) to be included in the MRA	The phage(s) to be included in the MRA have not been published; if more than one phage will be included in the MRA, the group of phages has commonality.		The phage(s) to be included in the MRA have already been published; if more than one phage will be included in the MRA, the group of phages lacks commonality.
Data Organization	4. Use the MRA Data Collection Spreadsheet to collect phage information for those phages to be included in the MRA. 5. Confirm the phage information in the MRA Data Collection Spreadsheet is correct.	The MRA Data Collection Spreadsheet contains accurate information, and all data elements are complete. Data is appropriately detailed, formatted, and uses correct terminology. If multiple phages are included in the paper, all data for each phage is included in the template.	The MRA Data Collection Spreadsheet contains accurate information, but some data elements are missing information or contain inaccurate information (~80% or more information is accurate). If multiple phages are included in the paper, all phages are represented in the MRA Data Collection template.	The MRA Data Collection Spreadsheet has inaccurate information, or there is missing data for many fields. If multiple phages are included in the paper, data is missing for one or more phages.

Figure and/or Table.	6. Create a table or figure representing the manuscript's phages.	The table or figure represents the phages presented in the paper. The table or figure has appropriate labels and can be understood without reading the text of the paper.	The table or figure represents the phages presented in the paper. The table or figure has minor errors in the labels or is missing information.	The table or figure does not accurately reflect the phages in the paper or is missing information or labels.
Introduction	7. Identify 1-2 background papers appropriate for the phages or host included in the manuscript. 8. Write an opening paragraph that includes justification for the research.	The introduction sentences explain to the reader why the information presented in the paper is important. The introduction is relevant to the information presented in the MRA.	The introduction sentences explain to the reader why the information presented in the paper is important. The introduction is broadly relevant. The introduction would be strengthened with specific reference to the information presented in the MRA.	The introduction sentences are missing or do not explain to the reader why the information presented in the paper is important. The introduction sentences are not relevant.

Phage Isolation and Characterization	9. Use the MRA General Template to develop the text of the MRA. The MRA should include distinct paragraphs describing: • the sample location (GPS coordinates), isolation (no. of purification steps, media, incubation temp), and morphological characteristics of the phage (average capsid size and tail length using at least 3 images to calculate). • Sequencing information and basic genomic characteristics of the phage. • phage annotation. • 2-3 interesting features of the phage. In this paragraph, the reader should be able to understand why the selected phages were included in the publication.	The MRA contains a series of body paragraphs that describe the characteristics of the phage(s) in the MRA. Paragraphs are distinct and contain detailed information about isolation, EM characterization, sequencing, and genomic characterization. All bulleted items are included in the MRA. A separate paragraph is dedicated to interesting features of the phage(s) included in the MRA. The paragraph clearly explains the interesting feature(s) and states why this feature is interesting relative to previously published phage research.	The MRA contains a series of body paragraphs that describe the characteristics of the phage(s) in the MRA. Paragraphs are distinct and contain detailed information about isolation, EM characterization, sequencing, and genomic characterization. 1-2 of the required bulleted items are missing. A separate paragraph is dedicated to interesting features of the phage(s) included in the MRA but may contain some extraneous information.	The MRA is missing one or more body paragraphs that describe the characteristics of the phage(s) in the MRA. The body paragraphs do not contain information related to isolation and EM characterization, sequencing, and genomic characterization and may reflect extraneous information or lack sufficient detail. A separate paragraph dedicated to interesting features of the phage(s) is not present or contains extraneous information.

Accession and SRA	10. Write a separate paragraph or create a table that includes the nucleotide accession number and sequence read archive number (SRA) for each phage in the MRA.	The nucleotide accession number and sequence read archive number are included for each phage in the MRA. Accession number hyperlinks are included.		The nucleotide accession number and sequence read archive number are missing for some of the phages in the MRA. Accession number hyperlinks are missing.
Abstract	11. Write a short paragraph highlighting key features of the MRA.	The abstract is a concise summary of the key features of the MRA. The abstract contains 50 words or less.	The abstract summarizes the data presented in the MRA but may be missing key findings or include too many details. The abstract contains more than 50 words.	The abstract is not a summary of the MRA and includes information not presented elsewhere in the manuscript. The abstract is a direct copy of the information in the MRA.
Title	12. Write a draft title for the manuscript.	The title clearly indicates the name of the phage and the host. The title reflects the phage(s) presented in the paper. The title clearly reflects the information presented in the MRA.	The title clearly indicates the names of the phages or the host, but one or the other is missing. The title includes the names of phage(s) in the paper and reflects information in the MRA.	The title is missing the phage name(s) or host information and/or includes other extraneous information not reflective of the MRA. The title does not reflect the information presented in the MRA.

Confirm Author List	13. Review the Author List to ensure all authors are included on the list, names are spelled correctly, and a valid email address is listed for all co-authors. 14. Confirm author consent has been obtained for each co-author.	The author list contains only individuals who contributed significantly to the MRA; all author information is complete and accurate.	The author list contains only individuals who contributed significantly to the MRA; >90% of the author information is complete and accurate.	The author list is incomplete and/or contains inaccurate or missing information.
Acknowledgments	15. Write 1-2 sentences of acknowledgments recognizing funding sources and support persons.	The acknowledgments include individuals who should be recognized for their assistance in preparing the manuscript.		The acknowledgments include individuals who did not assist in the preparation of the manuscript. Funding sources or key persons are not acknowledged.
Citations	16. Format and review the Reference list.	All manuscripts and software programs cited in the MRA are included in the Reference List. Citations are consistent and reflect the formatting style for an MRA.	Nearly all manuscripts and software programs cited in the MRA are included in the Reference List (missing 1-2). Citations are mostly consistent but may have minor formatting problems.	The Reference List does not include all cited works in the MRA or includes citations that are not referenced in the MRA. Citations may also have formatting problems.
Review	17. Use the MRA checklist to ensure all required elements are present. 18. Have a colleague review the draft and provide comments. 19. Final edits	All the required elements of an MRA are present. Sentences are clear, concise, and free of spelling and grammatical errors.	All the required elements of an MRA are present. The meaning of some sentences is not clear. Few spelling or grammatical errors.	The MRA is missing required elements. The MRA contains many spelling and grammatical errors.