| tRF_ID | tRF_SEQ | tRF_Type | tRF_ID | tRF_SEQ | tRF_Type | tRF_ID | tRF_SEQ | tRF_Type | tRF_ID | tRF_SEQ | tRF_Type |
|--------|---------|----------|--------|---------|----------|--------|---------|----------|--------|---------|----------|
| tRF-1 | tRF-Seq | tRF--Seq | tRF-1 | tRF-Seq | tRF--Seq | tRF-1 | tRF-Seq | tRF--Seq | tRF-1 | tRF-Seq | tRF--Seq |
| tRF-5a | tRF-5a | tRF-5a | tRF-5a | tRF-5a | tRF-5a | tRF-5a | tRF-5a | tRF-5a | tRF-5a | tRF-5a | tRF-5a |
| tRF-5b | tRF-5b | tRF-5b | tRF-5b | tRF-5b | tRF-5b | tRF-5b | tRF-5b | tRF-5b | tRF-5b | tRF-5b | tRF-5b |
| tRF-5c | tRF-5c | tRF-5c | tRF-5c | tRF-5c | tRF-5c | tRF-5c | tRF-5c | tRF-5c | tRF-5c | tRF-5c | tRF-5c |
| tRF-5d | tRF-5d | tRF-5d | tRF-5d | tRF-5d | tRF-5d | tRF-5d | tRF-5d | tRF-5d | tRF-5d | tRF-5d | tRF-5d |
| tRF-5e | tRF-5e | tRF-5e | tRF-5e | tRF-5e | tRF-5e | tRF-5e | tRF-5e | tRF-5e | tRF-5e | tRF-5e | tRF-5e |
| tRF-5f | tRF-5f | tRF-5f | tRF-5f | tRF-5f | tRF-5f | tRF-5f | tRF-5f | tRF-5f | tRF-5f | tRF-5f | tRF-5f |
| tRF-5g | tRF-5g | tRF-5g | tRF-5g | tRF-5g | tRF-5g | tRF-5g | tRF-5g | tRF-5g | tRF-5g | tRF-5g | tRF-5g |
| tRF-5h | tRF-5h | tRF-5h | tRF-5h | tRF-5h | tRF-5h | tRF-5h | tRF-5h | tRF-5h | tRF-5h | tRF-5h | tRF-5h |
| tRF-5i | tRF-5i | tRF-5i | tRF-5i | tRF-5i | tRF-5i | tRF-5i | tRF-5i | tRF-5i | tRF-5i | tRF-5i | tRF-5i |
| tRF-5j | tRF-5j | tRF-5j | tRF-5j | tRF-5j | tRF-5j | tRF-5j | tRF-5j | tRF-5j | tRF-5j | tRF-5j | tRF-5j |
| tRF-5k | tRF-5k | tRF-5k | tRF-5k | tRF-5k | tRF-5k | tRF-5k | tRF-5k | tRF-5k | tRF-5k | tRF-5k | tRF-5k |
| tRF-5l | tRF-5l | tRF-5l | tRF-5l | tRF-5l | tRF-5l | tRF-5l | tRF-5l | tRF-5l | tRF-5l | tRF-5l | tRF-5l |
| tRF-5m | tRF-5m | tRF-5m | tRF-5m | tRF-5m | tRF-5m | tRF-5m | tRF-5m | tRF-5m | tRF-5m | tRF-5m | tRF-5m |
| tRF-5n | tRF-5n | tRF-5n | tRF-5n | tRF-5n | tRF-5n | tRF-5n | tRF-5n | tRF-5n | tRF-5n | tRF-5n | tRF-5n |
| tRF-5o | tRF-5o | tRF-5o | tRF-5o | tRF-5o | tRF-5o | tRF-5o | tRF-5o | tRF-5o | tRF-5o | tRF-5o | tRF-5o |
| tRF-5p | tRF-5p | tRF-5p | tRF-5p | tRF-5p | tRF-5p | tRF-5p | tRF-5p | tRF-5p | tRF-5p | tRF-5p | tRF-5p |
| tRF-5q | tRF-5q | tRF-5q | tRF-5q | tRF-5q | tRF-5q | tRF-5q | tRF-5q | tRF-5q | tRF-5q | tRF-5q | tRF-5q |
| tRF-5r | tRF-5r | tRF-5r | tRF-5r | tRF-5r | tRF-5r | tRF-5r | tRF-5r | tRF-5r | tRF-5r | tRF-5r | tRF-5r |
| tRF-5s | tRF-5s | tRF-5s | tRF-5s | tRF-5s | tRF-5s | tRF-5s | tRF-5s | tRF-5s | tRF-5s | tRF-5s | tRF-5s |
| tRF-5t | tRF-5t | tRF-5t | tRF-5t | tRF-5t | tRF-5t | tRF-5t | tRF-5t | tRF-5t | tRF-5t | tRF-5t | tRF-5t |
| tRF-5u | tRF-5u | tRF-5u | tRF-5u | tRF-5u | tRF-5u | tRF-5u | tRF-5u | tRF-5u | tRF-5u | tRF-5u | tRF-5u |
| tRF-5v | tRF-5v | tRF-5v | tRF-5v | tRF-5v | tRF-5v | tRF-5v | tRF-5v | tRF-5v | tRF-5v | tRF-5v | tRF-5v |
| tRF-5w | tRF-5w | tRF-5w | tRF-5w | tRF-5w | tRF-5w | tRF-5w | tRF-5w | tRF-5w | tRF-5w | tRF-5w | tRF-5w |
| tRF-5x | tRF-5x | tRF-5x | tRF-5x | tRF-5x | tRF-5x | tRF-5x | tRF-5x | tRF-5x | tRF-5x | tRF-5x | tRF-5x |
| tRF-5y | tRF-5y | tRF-5y | tRF-5y | tRF-5y | tRF-5y | tRF-5y | tRF-5y | tRF-5y | tRF-5y | tRF-5y | tRF-5y |
| tRF-5z | tRF-5z | tRF-5z | tRF-5z | tRF-5z | tRF-5z | tRF-5z | tRF-5z | tRF-5z | tRF-5z | tRF-5z | tRF-5z |

A total of 109 significantly differentially expressed tRFs and tiRNAs. tRF, transfer RNA-derived fragments; tiRNAs, transfer RNA halves.
| tRNA_id     | kmeans_group |
|------------|--------------|
| tRF-Ser-TGA-009 | 1            |
| tRF-Glu-CTC-008 | 1            |
| tRF-Val-AAC-011 | 1            |
| tRF-Gly-GCC-007 | 1            |
| tRF-Gly-GCC-007 | 1            |
| tRF-Glu-TTC-012 | 1            |
| tRF-Gly-GCC-008 | 1            |
| tRF-Gly-GCC-010 | 2            |
| tRF-Gly-GCC-011 | 2            |
| tRF-Ile-AAT-004 | 3            |
| tRF-Gly-TCC-053 | 3            |
| tRF-Glu-TTC-013 | 3            |
| tRF-Gly-TCC-054 | 3            |
| tRF-Glu-CTC-014 | 3            |
| tRF-Gly-TCC-055 | 3            |
| tRF-Glu-TTC-015 | 3            |
| tRF-Gly-TCC-056 | 3            |
| tRF-Glu-CTC-016 | 3            |
| tRF-Gly-TCC-057 | 3            |
| tRF-Glu-TTC-017 | 3            |
| tRF-Gly-TCC-058 | 3            |
| tRF-Glu-TTC-018 | 3            |
| tRF-Gly-TCC-059 | 3            |
| tRF-Glu-TTC-019 | 3            |
| tRF-Gly-TCC-060 | 3            |
| tRF-Glu-TTC-020 | 3            |
| tRF-Gly-TCC-061 | 3            |
| tRF-Glu-TTC-021 | 3            |
| tRF-Gly-TCC-062 | 3            |
| tRF-Glu-TTC-022 | 3            |
| tRF-Gly-TCC-063 | 3            |
| tRF-Glu-TTC-023 | 3            |
| tRF-Gly-TCC-064 | 3            |
| tRF-Glu-TTC-024 | 3            |
| tRF-Gly-TCC-065 | 3            |
| tRF-Glu-TTC-025 | 3            |
| tRF-Gly-TCC-066 | 3            |
| tRF-Glu-TTC-026 | 3            |
| tRF-Gly-TCC-067 | 3            |
| tRF-Glu-TTC-027 | 3            |
| tRF-Gly-TCC-068 | 3            |
| tRF-Glu-TTC-028 | 3            |
| tRF-Gly-TCC-069 | 3            |
| tRF-Glu-TTC-029 | 3            |
| tRF-Gly-TCC-070 | 3            |
| tRF-Glu-TTC-030 | 3            |
| tRF-Gly-TCC-071 | 3            |
| tRF-Glu-TTC-031 | 3            |
| tRF-Gly-TCC-072 | 3            |
| tRF-Glu-TTC-032 | 3            |
| tRF-Gly-TCC-073 | 3            |
| tRF-Glu-TTC-033 | 3            |
| tRF-Gly-TCC-074 | 3            |
| tRF-Glu-TTC-034 | 3            |
| tRF-Gly-TCC-075 | 3            |
| tRF-Glu-TTC-035 | 3            |
| tRF-Gly-TCC-076 | 3            |
| tRF-Glu-TTC-036 | 3            |
| tRF-Gly-TCC-077 | 3            |
| tRF-Glu-TTC-037 | 3            |
| tRF-Gly-TCC-078 | 3            |
| tRF-Glu-TTC-038 | 3            |
| tRF-Gly-TCC-079 | 3            |
| tRF-Glu-TTC-039 | 3            |
| tRF-Gly-TCC-080 | 3            |
| tRF-Glu-TTC-040 | 3            |
| tRF-Gly-TCC-081 | 3            |
| tRF-Glu-TTC-041 | 3            |
| tRF-Gly-TCC-082 | 3            |
| tRF-Glu-TTC-042 | 3            |
| tRF-Gly-TCC-083 | 3            |
| tRF-Glu-TTC-043 | 3            |
| tRF-Gly-TCC-084 | 3            |
| tRF-Glu-TTC-044 | 3            |
| tRF-Gly-TCC-085 | 3            |
| tRF-Glu-TTC-045 | 3            |
| tRF-Gly-TCC-086 | 3            |
| tRF-Glu-TTC-046 | 3            |
| tRF-Gly-TCC-087 | 3            |
| tRF-Glu-TTC-047 | 3            |
| tRF-Gly-TCC-088 | 3            |
| tRF-Glu-TTC-048 | 3            |
| tRF-Gly-TCC-089 | 3            |
| tRF-Glu-TTC-049 | 3            |
| tRF-Gly-TCC-090 | 3            |
| tRF-Glu-TTC-050 | 3            |
| tRF-Gly-TCC-091 | 3            |
| tRF-Glu-TTC-051 | 3            |
| tRF-Gly-TCC-092 | 3            |
| tRF-Glu-TTC-052 | 3            |
| tRF-Gly-TCC-093 | 3            |
| tRF-Glu-TTC-053 | 3            |
| tRF-Gly-TCC-094 | 3            |
| tRF-Glu-TTC-054 | 3            |
| tRF-Gly-TCC-095 | 3            |
| tRF-Glu-TTC-055 | 3            |
| tRF-Gly-TCC-096 | 3            |
| tRF-Glu-TTC-056 | 3            |
| tRF-Gly-TCC-097 | 3            |
| tRF-Glu-TTC-057 | 3            |
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| tRF-Gly-TCC-101 | 3            |
| tRF-Glu-TTC-061 | 3            |
| tRF-Gly-TCC-102 | 3            |
| tRF-Glu-TTC-062 | 3            |
| tRF-Gly-TCC-103 | 3            |
| tRF-Glu-TTC-063 | 3            |
| tRF-Gly-TCC-104 | 3            |
| tRF-Glu-TTC-064 | 3            |
| tRF-Gly-TCC-105 | 3            |
| tRF-Glu-TTC-065 | 3            |
| tRF-Gly-TCC-106 | 3            |
| tRF-Glu-TTC-066 | 3            |
| tRF-Gly-TCC-107 | 3            |
| tRF-Glu-TTC-067 | 3            |
| tRF-Gly-TCC-108 | 3            |
| tRF-Glu-TTC-068 | 3            |
| tRF-Gly-TCC-109 | 3            |
| tRF-Glu-TTC-069 | 3            |
| tRF-Gly-TCC-110 | 3            |
| tRF-Glu-TTC-070 | 3            |
| tRF-Gly-TCC-111 | 3            |
| tRF-Glu-TTC-071 | 3            |
| tRF-Gly-TCC-112 | 3            |
| tRF-Glu-TTC-072 | 3            |
| tRF-Gly-TCC-113 | 3            |
| tRF-Glu-TTC-073 | 3            |
| tRF-Gly-TCC-114 | 3            |
| tRF-Glu-TTC-074 | 3            |
| tRF-Gly-TCC-115 | 3            |
| tRF-Glu-TTC-075 | 3            |
| tRF-Gly-TCC-116 | 3            |
| tRF-Glu-TTC-076 | 3            |
| tRF-Gly-TCC-117 | 3            |
| tRF-Glu-TTC-077 | 3            |
| tRF-Gly-TCC-118 | 3            |
| tRF-Glu-TTC-078 | 3            |
| tRF-Gly-TCC-119 | 3            |
| tRF-Glu-TTC-079 | 3            |
| tRF-Gly-TCC-120 | 3            |
| tRF-Glu-TTC-080 | 3            |
| tRF-Gly-TCC-121 | 3            |
| tRF-Glu-TTC-081 | 3            |
| tRF-Gly-TCC-122 | 3            |
| tRF-Glu-TTC-082 | 3            |
| tRF-Gly-TCC-123 | 3            |
| tRF-Glu-TTC-083 | 3            |
| tRF-Gly-TCC-124 | 3            |
| tRF-Glu-TTC-084 | 3            |
| tRF-Gly-TCC-125 | 3            |
| tRF-Glu-TTC-085 | 3            |
| tRF-Gly-TCC-126 | 3            |