

# **Comparative assessment of methods for the fusion transcripts detection from RNA-Seq data**

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**Supplementary Figure S2:** Comparison of time and computational memory, used by software packages on the mixed dataset. **BE:** Bellerophonotes, **ER:** EricScript, **NF:** nFuse, **FC:** FusionCatcher, **FH:** FusionHunter, **FM:** FusionMap, **JA:** JAFFA, **MS:** MapSplice, **TF:** TopHat-Fusion.

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**Supplementary Sheet S3:** Number of detected fusions, time and memory used by different tools on the test dataset.

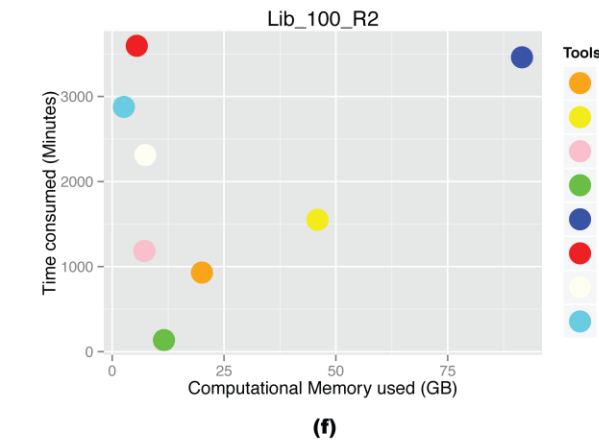
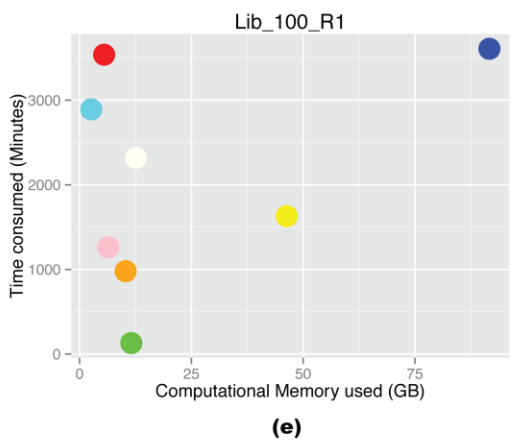
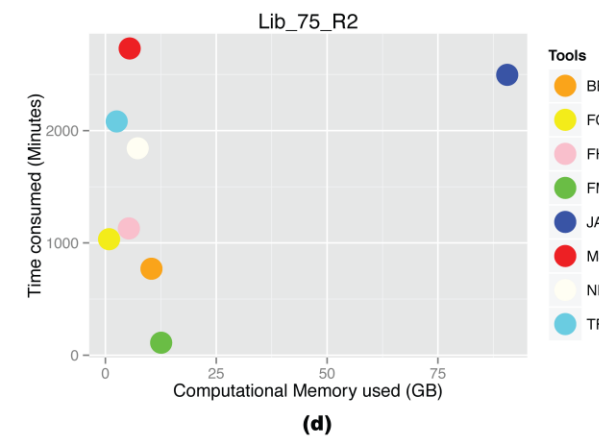
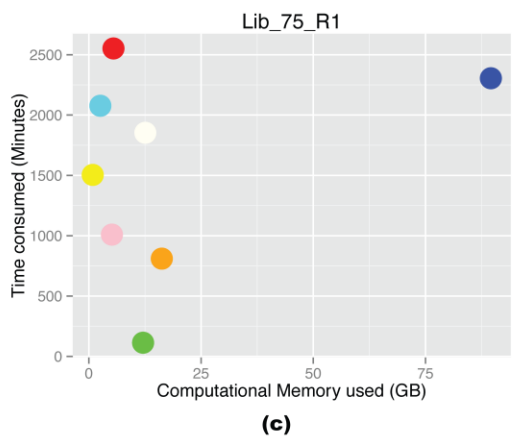
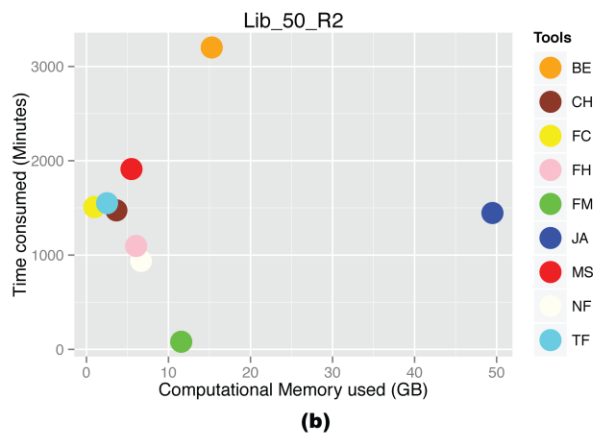
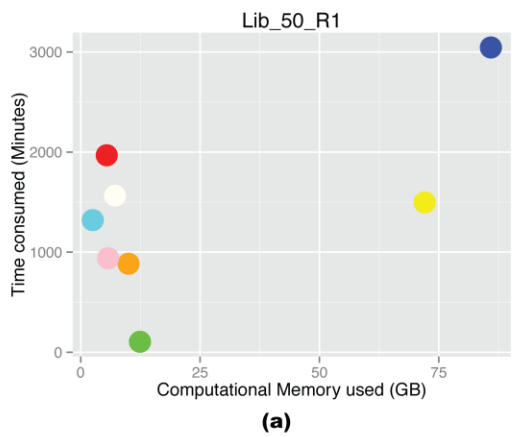
**Supplementary Sheet S4:** TOPSIS analysis and calculation of final scores for the fusion detection tools on the mixed dataset.

**Supplementary Table S1:** False discoveries for the 12 tools. The total numbers of fusions detected on the negative dataset are listed. Numbers in the brackets indicate the unique gene pairs. \* Indicates that the software errors occurred in the handling of intermediate files, no final result was produced.

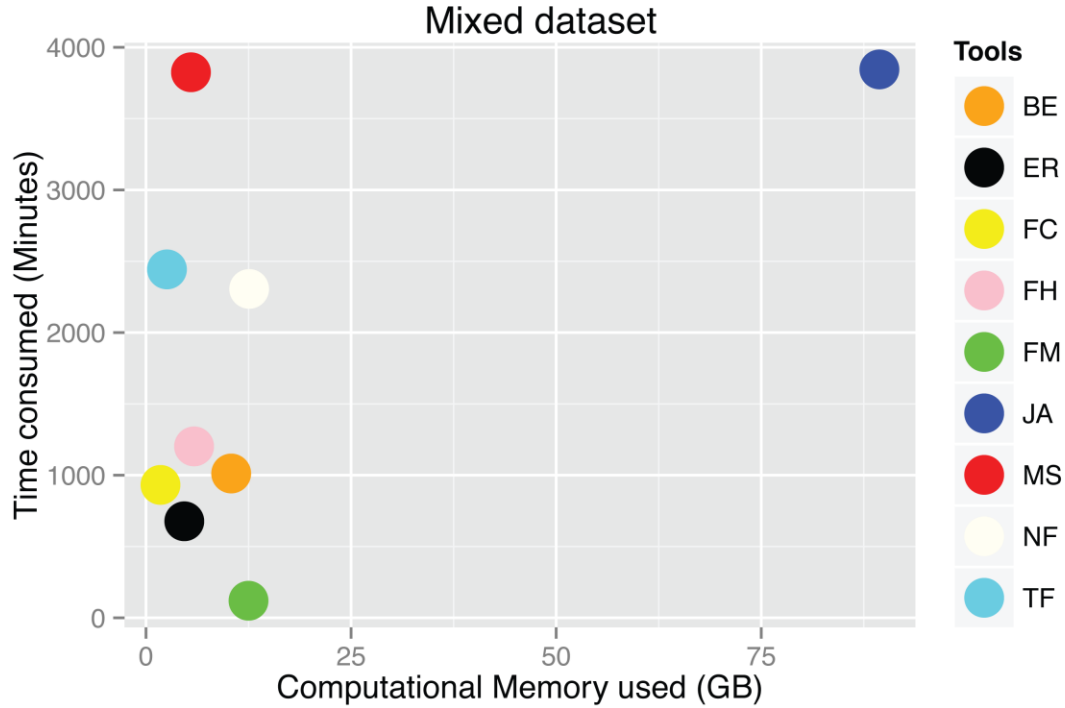
<b>Tools</b>	<b>Lib_50_R1</b>	<b>Lib_50_R2</b>	<b>Lib_75_R1</b>	<b>Lib_75_R2</b>	<b>Lib_100_R1</b>	<b>Lib_100_R2</b>
<b>Bellerophon</b>	0	15465 (15430)	0	0	0	0
<b>BreakFusion</b>	*	*	*	*	*	*
<b>Chimerascan</b>	*	1600 (1540)	*	*	*	*
<b>EricScript</b>	*	*	*	*	*	*
<b>FusionCatcher</b>	0	0	0	0	0	0
<b>FusionHunter</b>	0	842 (767)	0	0	0	0
<b>FusionMap</b>	93	27	24	27	81	83
<b>JAFFA</b>	0	51(48)	0	0	0	0
<b>MapSplice</b>	0	152	33	30	45	42
<b>nFuse</b>	5	70(67)	39 (35)	31 (29)	54 (53)	78 (70)
<b>SOAPfuse</b>	*	*	*	*	*	*
<b>TopHat-Fusion</b>	0	29 (25)	0	0	0	0

**Supplementary Table S2:** Number of overlapping fusions between the 12 tools on the test dataset. **BE:** Bellerophon, **BF:** BreakFusion, **CH:** Chimerascan, **ER:** EricScript, **NF:** nFuse, **FC:** FusionCatcher, **FH:** FusionHunter, **FM:** FusionMap, **JA:** JAFFA, **MS:** MapSplice, **SF:** SOAPfuse, **TF:** TopHat-Fusion.

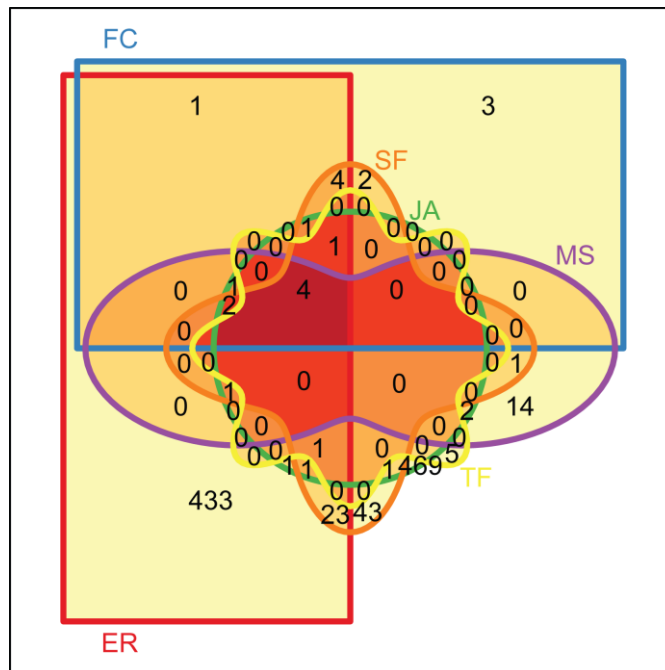
<b>Tools</b>	<b>BE</b>	<b>BF</b>	<b>CH</b>	<b>ER</b>	<b>FC</b>	<b>FH</b>	<b>FM</b>	<b>JA</b>	<b>MS</b>	<b>NF</b>	<b>SF</b>	<b>TF</b>
<b>BE</b>	1820	0	0	2	0	0	0	0	0	2	1	0
<b>BF</b>	0	1401	5	4	0	173	1	2	2	1	3	0
<b>CH</b>	0	5	463	43	9	5	7	14	7	1	42	5
<b>ER</b>	2	4	43	474	14	1	9	13	8	1	38	6
<b>FC</b>	0	0	13	14	19	0	11	14	11	1	19	9
<b>FH</b>	0	173	5	1	0	287	0	0	0	1	2	0
<b>FM</b>	0	1	7	9	7	0	16	10	9	1	8	5
<b>JA</b>	0	2	14	13	9	0	10	485	10	1	12	6
<b>MS</b>	0	2	7	8	7	0	9	10	25	2	8	4
<b>NF</b>	2	1	1	1	1	1	1	1	2	150	1	2
<b>SF</b>	1	3	42	38	14	2	8	12	8	1	85	6
<b>TF</b>	0	0	5	6	5	0	5	6	4	2	6	11



**Supplementary Figure S1: Comparison of time and computational memory used by software packages on the negative dataset.** (a) Lib\_50\_R1, (b) Lib\_50\_R2, (c) Lib\_75\_R1, (d) Lib\_75\_R2, (e) Lib\_100\_R1, (f) Lib\_100\_R2. **BE**: Bellerophon, **CH**: Chimerascan, **ER**: EricScript, **NF**: nFuse, **FC**: FusionCatcher, **FH**: FusionHunter, **FM**: FusionMap, **JA**: JAFFA, **MS**: MapSplice, **SF**: SOAPfuse, **TF**: TopHat-Fusion.



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