#### **SUPPLEMENTARY INFORMATION**

Probing the impact of temperature on molecular events

in a developmental system

David Cheung<sup>1</sup> and Jun Ma<sup>1,2,\*</sup> <sup>1</sup>Division of Biomedical Informatics <sup>2</sup>Division of Developmental Biology Cincinnati Children's Research Foundation 3333 Burnet Avenue Cincinnati, OH 45229, USA

\*Author for correspondence: Divisions of Biomedical Informatics and Developmental Biology, Cincinnati Children's Hospital Research Foundation, 3333 Burnet Avenue, Cincinnati, OH 45229, USA; 513-636-7977 (phone); jun.ma@cchmc.org (email)



#### Supplementary Fig. S1. Quantitative measurements of individual Bcd intensity profiles in embryos maturing at different temperatures

a-d) Shown are raw Bcd intensity profiles extracted from individual embryos maturing at the indicated temperatures (18°C, 22°C, 25°C, and 29°C, respectively), plotted as a function of fractional embryo length ( $\xi$ ). Also shown are the mean and standard deviation (s.d.).



## Supplementary Fig. S2. Raw Bcd intensity relationships for embryos raised at different temperatures

a) Shown is a scatter plot of the raw Bcd intensity values from embryos maturing at 18°C, 22°C, 25°C and 29°C plotted against those from embryos at 25°C at their relative positions. The data shown are from all pairwise combinations. The inset shows a scatter plot of intensity values of paired embryos maturing at 25°C. b) Shown are scatter plots of the mean Bcd intensities (and s.d.) between the indicated pairwise combinations of the thermal cohorts. The intensity data are shown in log scale, and a linear fit is shown for each pairwise comparison.



# Supplementary Fig. S3. *hb* mRNA FISH intensity profiles from individual embryos maturing at different temperatures

a-d) Shown are normalized *hb* mRNA FISH intensity profiles extracted from individual embryos plotted as a function of fractional embryo length ( $\xi$ ). The data presented are for each of the indicated thermal cohorts separately. Also shown are the mean s.d.

![](_page_4_Figure_0.jpeg)

## Supplementary Fig. S4. Mean profiles of Bcd and *hb* from embryos maturing at different temperatures

a-d) Shown are superimposed profiles of the mean Bcd intensities (blue, left scale) and the mean normalized *hb* FISH intensities (red, right scale), plotted as a function fractional egg length ( $\xi$ ). The panels show data for individual thermal cohorts separately. Error bars are s.d.