Results

Table 5.1 Types of statements in Results segments

Element	Function
Location of results	Statement(s) that locate(s) where the figure/table is found
Highlighting of key data	Statement(s) that highlight(s) important data
Commenting on key data	Statement(s) that interpret(s) or comment(s) on the data

Sample 5.1 (Chemical and Biomolecular Engineering)

[The text is taken from a results section entitled 'Crystallization at constant flow rate of anti-solvent'. Figures mentioned in the text have been omitted.]

[P1] § 1 The cumulative mass distribution of crystal products is shown in Figure 6.3. § 2 For unseeded crystallization, the addition rate of 1g/min yielded a larger L when compared to 2 g/min (669 um versus 545 um), but the spread of PSD widened significantly (c.v. of 43.24% versus 33.79%). § 3 1% seed loading yielded the narrowest PSD with c.v. equal to 21.7%, but its L decreased to the lowest values (458um) among the four runs; 0,5% seed loading brought L to a larger value, but its c.v. was impaired (31.23%). § 4 Although it is possible to obtain a narrower PSD with 0.5% seed lading at a lower addition rate such as at 1g/min, the lengthened batch time may become a concern for industrial practice. § 5 As such, the above results suggest that constant flow rate operation is not able to optimize L, c.v. and batch time concurrently.

[P2] § 1 Figure 6.4 shows the time evolution of total counts of chord lengths during the four crystallization runs. § 2 The results indicate that the differences in L of the two unseeded runs are attributable to the variation in the number of nuclei formed during the nucleation stage. § 3 The total count of chord lengths, which are proportional to the particle number in the crystallizer, was around 1000 #/s upon completion of the nucleation stage when addition rate of anti-solvent was 1 g/min, and was about 1400#/s at 2g/min. § 4 These results show that the addition rate of anti-solvent defines the number of nuclei in unseeded crystallization and plays a critical role in PSD control.

[P3] § 1 The differing c.v. of the two unseeded runs can be attributed to the variation in life-time distribution of crystals. § 2 In unseeded crystallization in many systems, it is difficult to separate nucleation from crystal growth, and early nuclei have more time to grow into big crystals. § 3 Late nuclei, mostly generated through secondary nucleation, do not have as long a time to grow in size. § 4 As can be deduced from Figure 6.4, about 110 minutes had elapsed when nucleation was completed at 1 g/min (corresponding to 110 g of anti-solvent), while it took only 80 minutes at 2 g/min (corresponding to 160 g of anti-solvent). § 5 Therefore, the nuclei generated at 1 g/min had wider life-time distribution than at 2 g/min, which translated

to a larger c.v. in final PSD.

[P4] § 1 The low value of c.v. from a seed loading of 1% verifies that the practice of seeding provides an effective approach to narrow PSD by separating nucleation and crystal growth if seed loading or the surface area of seeds is sufficient [25, 26]. § 2 On-line FBRM data provided further evidence of this. § 3 As shown in Figure 6.4, the number of crystals remained constant throughout at seed loading of 1%, , indicating secondary nucleation was suppressed to a large degree and almost all final crystals originated from narrow-sized seeds. § 4 By contrast, at a lower seed lading of 0.5%, significant secondary nucleation took place as indicated by the jump in the total counts of chord lengths as shown in Figure 6.4 (from 400 to 1000 #/s). § 5 Crystals derived from the original seeds represent the bigger-size fraction of the final products and crystals derived from secondary nucleation represent the smaller-size fraction; this led to a wider PSD as clearly shown in Figure 6.3.

HIGHLIGHTING KEY DATA

As you may have noticed, not all data is mentioned in the accompanying text. Indeed, in the text accompanying the data, you should not restate all the numerical data in words. Instead, you should just highlight to your readers the most important points in your data. In many cases, the following aspects are highlighted:

1. the highest or lowest values,

2. the overall trend or pattern in the data,

3. or points that do not seem to fit the pattern or trend, etc.

More importantly, you should choose to highlight results which provide answers to your research questions and are thus critical to meeting the aims of your research. In other words, what you choose to highlight in your data should be guided by the overall purpose and direction of your study.

FUNCTIONS OF COMMENTS

Statements that highlight key data address the question of what is observed. Statements that present comments, on the other hand, focus on questions related to interpretation of the observations. In general, comments can be categorized into three main types according to their functions as shown in Table 5.2. Bear in mind that comments, regardless of their function, are always based on or supported by evidence-the results obtained in your study or a combination of your results and those of previous studies (in which case citations for and references to the relevant studies must be given).

Table 5.2 Types of Comments

Function of comment	**Examples (signal words are marked in bold)**
Generalisations	1. The results **indicate** that the FTMR parting methodology

(include deductions and implications) drawn from results	incorporated with ECFS is robust and effective in identifying outer parting loop, inner parting line loops, cavity/core surfaces, and undercut features for complex moulded products. 2. The normal expression of *lysozyme c* and *mpo* in the *dhd* mutant **suggests** that development of primitive myeloid cells is normal in this mutant. Taken together, the above data **show** that the dhd mutant has normal primitive hematopoiesis. 3. This finding is important as it **implies** that potential improvement can be obtained by exploiting channel correlations over a few adjacent time blocks.
Comparison/Contrast (results of your study versus those of related studies)	4. [As shown in Fig. 3.1, V4 has almost the same penetration ability for both the POPG and DPPG monolayers.] This **differs from** results obtained for FCS (Yu et al., 2005), for which V4 peptide showed higher affinity for POPG than for DPPG vesicle. 5. These E0 and v values are **comparable to** those extracted by indentations on both bulk PMMA and PMMA films using a flat-ended punch[13].
Explanations/specula tions(possible cause-effect relationships)related to the results	6. The different c.v. of the two unseeded runs can be **attributed to** the variation in life-time distribution of crystals. 7. [Result: Deletion of AopE and/or AopH did not affect the cytotoxicity of A. *hydrophila* AH-1 to fish epithelial cells, Hela cells and Raw J774.1 macrophages.] Considering the redundancy of effector proteins(Heuck,1998), we **speculate** that other cytotoxic effectors may act in concert with AopE and Aop H to exert TTSS dependent cytotoxicity.