

Getting to the Finish Line Faster

Solutions for Accelerating Your Workflow

allen★press

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What is an “Accelerated Workflow”?

- An Accelerated Workflow is more than just a compressed production schedule

The Allen Press Definition:

- A production schedule that leverages process automation to maximize the throughput of deliverables and minimize production cost
 - At Allen Press, we call this

Allen
QuickPage™

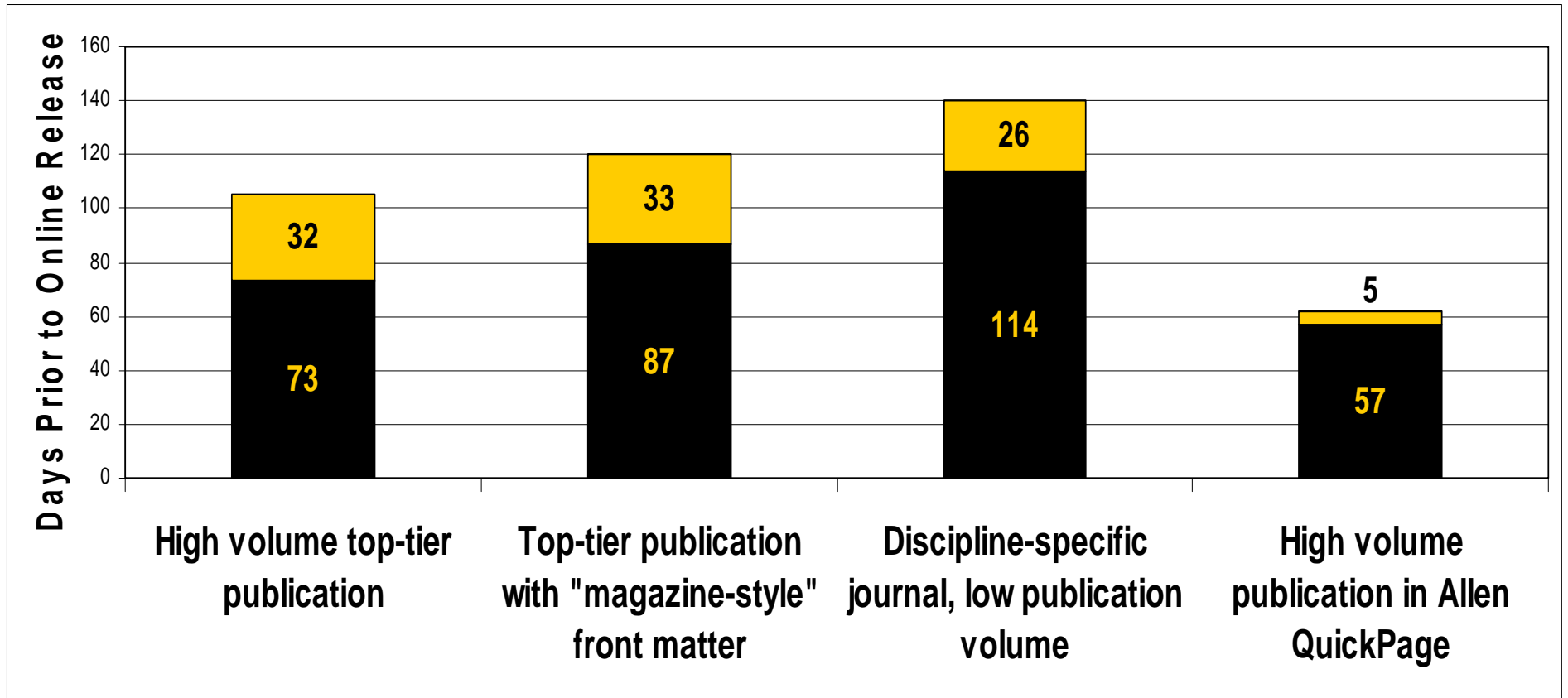
Key Points

- Standardized output allows for process automation
- Process automation increases the amount of throughput available in the production schedule

Time to Online Release

Journal	Number of Days in Pre-Production	Number of Days in Production	Total Time to Online Release
1: High volume, top-tier, publication	73	32	105
2: Top-tier publication with “magazine-style” front matter	87	33	120
3: Discipline-specific journal, low publication volume	114	26	140
High-volume publication in Allen QuickPage	57	5	62

Time to Online Release



Article Preparation

Authors submit manuscript files and metadata

- Author has opportunity to obtain copyediting services before submission
 - If decision from reviewer requires copyediting for acceptance, copyediting by external service may be performed as part of the revision process

Typesetting

- The requirements placed on Typesetting differ for Print and Online workflows
 - Print
 - The PDF proof should accurately reflect the printed page. We are concerned with things like minus pages, where line breaks occur, how columns of text align with figures, etc.
 - Online
 - These conventions need not apply, as the primary means of viewing the article is not the printed page, but rather the online article page

Print

bination in a physiological process within an endogenous locus, avoiding the need for a transgene reporter. Control experiments have shown that the PolyLacO tag does not affect cell proliferation, cell cycle, or Ig gene diversification (M. Yabuki, E. C. Ordinario, W. J. Cummings, R. P. Larson, M. M. Fujii, et al., unpublished data).

In DT40 PolyLacO- λ_R GFP-LacI cells, which stably express enhanced green fluorescent protein (GFP) fused to LacI (GFP-LacI), the tagged λ_R allele can be directly imaged by fluorescence microscopy and appears as a distinct dot in each cell (Figure 2B, center). Tethering is reversible, as bright dots are not evident following overnight culture with 100 μ M isopropyl- β -D-thiogalactoside (IPTG), which prevents LacI from binding to PolyLacO (Figure 2B, right).

Tethered HP1 Diminishes Modifications Characteristic of Active Chromatin at $\psi V\lambda$

To manipulate chromatin structure at the $\psi V\lambda$ array, we generated stable transfectants of DT40 PolyLacO- λ_R that express the *D. melanogaster* HP1 protein fused to LacI (LacI-HP1). HP1 is a nonhistone heterochromatin protein that functions in heterochromatic gene silencing, the spreading of heterochromatin, and histone deacetylation [58–60]. Tethered HP1 has been shown to promote a closed chromatin structure at adjacent genes [61,62,65–67]. Staining DT40 PolyLacO- λ_R LacI-HP1 transfectants with anti-LacI antibodies showed that LacI-HP1 colocalized with DAPI-dense regions corresponding to pericentric heterochromatin (Figure 3A), behaving as a functional marker of heterochromatin [68].

PolyLacO- λ_R GFP-LacI cells, but at background levels in DT40 PolyLacO- λ_R LacI-HP1 cells (Figure 3B and 3C).

HP1 promotes maintenance and spreading of heterochromatin [65]. To verify that changes in chromatin structure promoted by tethered HP1 did not spread throughout the chromosome, we examined another site near the *Ig λ* locus on Chromosome 15, the gene encoding the catalytic subunit of DNA pol ϵ . DNA pol ϵ is ubiquitously expressed and essential for chromosomal replication in eukaryotes [71], and it is encoded by a gene mapping approximately 2.1 Mb from *Ig λ* . We found no difference in enrichment of ACh3 at the *pol ϵ* promoter region in the DT40 PolyLacO- λ_R LacI-HP1 transfectants relative to DT40 PolyLacO- λ_R GFP-LacI controls (*pol ϵ /Ova* enrichment 8.5-fold and 8.4-fold, respectively; Figure 3C). Similarly, there was no difference in ACh4 at the *pol ϵ* promoter in the DT40 PolyLacO- λ_R LacI-HP1 transfectants relative to DT40 PolyLacO- λ_R GFP-LacI controls (*pol ϵ /Ova* enrichment 1.9-fold and 1.7-fold, respectively; Figure 3C). Thus, tethering of LacI-HP1 at $\psi V\lambda$ caused local modifications in chromatin structure, diminishing the ACh3, ACh4, and diMeK4(H3) modifications characteristic of open chromatin at $\psi V\lambda_{17R}$, and causing chromatin to adopt a less permissive state.

Tethered HP1 Does Not Affect *V λ* Gene Expression

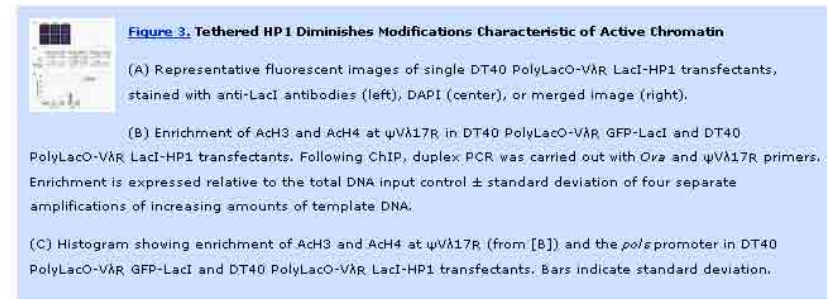
We asked how tethered HP1 affected ACh3 and ACh4 levels at the expressed *V λ_R* by comparing these modifications in DT40 PolyLacO- λ_R LacI-HP1 cells and the DT40 PolyLacO- λ_R GFP-LacI control transfectants (Figure 4A). Tethered HP1 diminished ACh3 and ACh4 levels to approximately 40% and

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Tethered HP1 Diminishes Modifications Characteristic of Active Chromatin at $\psi V\lambda$

To manipulate chromatin structure at the $\psi V\lambda$ array, we generated stable transfectants of DT40 PolyLacO- λ_R that express the *D. melanogaster* HP1 protein fused to LacI (LacI-HP1). HP1 is a nonhistone heterochromatin protein that functions in heterochromatic gene silencing, the spreading of heterochromatin, and histone deacetylation [58–60]. Tethered HP1 has been shown to promote a closed chromatin structure at adjacent genes [61,62,65–67]. Staining DT40 PolyLacO- λ_R LacI-HP1 transfectants with anti-LacI antibodies showed that LacI-HP1 colocalized with DAPI-dense regions corresponding to pericentric heterochromatin (Figure 3A), behaving as a functional marker of heterochromatin [68].

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To ask if tethered LacI-HP1 altered chromatin structure, we assayed chromatin modifications at $\psi V\lambda 17$. This is the only site in the $\psi V\lambda$ array at which the rearranged and unrearranged alleles could be readily distinguished by use of specific PCR primers. Following ChIP, DNA was amplified with PCR primers specific for the targeted rearranged allele ($\psi V\lambda 17_R$). Enrichment of $\psi V\lambda 17_R$ was compared to the nonexpressed *Ova* gene as an internal control, and normalized to the $\psi V\lambda 17_R:Ova$ enrichment ratio in total input DNA (see [Material and Methods](#)). AcH3 and AcH4 were enriched 2.2-fold and 5.9-fold, respectively, at $\psi V\lambda 17_R$ in DT40 PolyLacO- λ_R GFP-LacI controls (Figure 3B and 3C). These levels of enrichment are comparable to those documented in DT40 (Figure 1B). (Note that analysis of modification at $\psi V\lambda$ in the survey of the parental DT40 line necessarily included both alleles, which may underestimate activating modifications at the rearranged allele. In contrast, analysis of modifications at $\psi V\lambda 17_R$ interrogates only the active allele.) AcH3 and AcH4 were not enriched at $\psi V\lambda 17_R$ in DT40 PolyLacO- λ_R LacI-HP1 transfectants (0.6- and 1.0-fold, respectively; Figure 3B and 3C), consistent with

Deliverables

- What is a Deliverable?
 - XML, PDF, Figures, Equations, Tables, Supplementary Files
- Destinations?
 - Online Journal Site, Pressroom Floor,
 - Online Aggregator



How does QuickPage compare?



Amount of Time needed to Publish Article

Customization of individual Articles or Issues

Author involvement in production after Peer Review

How does QuickPage compare?

- To Early Online Release?
 - Early Online Release is a provisional PDF of the author-produced electronic version of a manuscript that has been accepted for publication.
- Allen QuickPage produces a finished product, rather than a preview.

How does QuickPage compare?

- To “Just in Time Publication”
 - Just in Time Publication is an actual publication model
- Allen QuickPage is a production model.
- You can have both!

How hard is it to transition to QuickPage?

- What is required?
 - AllenTrack
 - An Online Journal hosting solution, such as those offered by Allen Press
 - A consistent journal style

Benefits of an all-digital workflow

- Faster turnaround — A streamlined production process leads to increased production throughput as well as a reduction in time required to produce proofs and deliverables
- More efficient— Automation, standardization and technology improve productivity, leading to increased volume of deliverables

Benefits of an all-digital workflow

- Environmental Benefits
 - Instant online proofing greatly reduces paper usage
 - Online delivery negates the need for land, air or water transport, eliminating postage and mailing costs

Benefits of an all-digital workflow

More articles



More opportunities for authors to submit



More publication charges



Increased revenue.

Benefits of an all-digital workflow

More articles



Stronger Online Presence



More Citations



More Site Traffic



Increased Ad Revenue

Conclusion

- Standardized output allows for process automation
- Production schedules are not artificially compressed
- Production cost savings and greater production throughput translate in financial gains

Questions & Answers

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